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STATE OF MINNESOTA

# OFFICE OF FIRE MARSHAL BULLETIN

George H. Nettleton,  
Fire Marshal

No. 1

Saint Paul

August 1, 1919

## Minnesota State Fire College

Saint Paul, September 22 to 26

A School of Instruction for Firemen, Conducted Under the Auspices of  
the State Fire Marshal's Office

Teamwork  
Is An Important  
Factor  
In Efficient  
Fire Fighting



Well trained men  
won the war.  
Well trained men  
will win the war  
against fire.

MR. LEON L. WOLF  
Physical Director, Cincinnati Fire Department,  
who will have charge of the school.

## Fire Prevention Congress Saint Paul, September 25, 1919

## MINNESOTA FIRE COLLEGE.

**T**HIE Fire College announced at the State Firemen's Convention at Red Wing will open in St. Paul, September 22nd, 1919. The object of the college is to give the firemen throughout the state a short course in modern methods used in fighting fire and, in order that every man in the game may be informed of new ideas and progress in the methods of handling fire. Team work is an important factor in making an efficient fire-fighting organization. The firemen should be properly instructed in operating apparatus so that every man will handle it in the same manner and then there is the knowledge of first aid and rescue work which every fireman should acquire. These subjects will be a part of the course of instruction at the Fire College. Every town in the state will be invited to send two members from its local fire department to attend the school. Larger cities having more than one engine house may send two men from each house.

Mr. Leon L. Wolf, physical director of the Cincinnati Fire Department, has been secured as instructor. Mr. Wolf is recognized as one of the foremost authorities in the country in this line of work. He has devoted much time and study to the subject of fire protection and fire fighting. He is so enthusiastic over the work that he has had the Cincinnati fire alarm system extended into his office and home so that he receives all fire alarms, which he answers with his private car when convenient.

As shown by the accompanying photograph, Mr. Wolf's car is well equipped for fire duty. The apparatus he carries with him might be envied by any auxiliary chief. Mr. Wolf, the central figure in the picture, is small of stature. He is five feet tall and weighs only 126 pounds. However, he can prove that height and weight do not count when it comes to lifting as he can climb up or down a ladder with a man nearly twice his weight thrown across his shoulders. He illustrates how easy this is done in the rescue work which is a part of the program.

The subjects to be covered in the course are physical training, rescue work, first aid work, hose exercises, ladder exercises, fire duty, ventilation, knots, and the analyzing and naming of various tools and appliances used in fire fighting, also lectures on gas masks and smoke helmets.

The school is to be held in the St. Paul City Armory, which is located in the downtown district of the city at the corner of Sixth and Exchange Streets. The school will open at ten o'clock on the morning of September 22nd, continue Monday, Tuesday and Wednesday. The school work will be suspended Thursday for the Fire Prevention Congress, which will be held at the Palm Room at the St. Paul Hotel. The program for the Congress has not been completed but it is assured that some of the best known authorities in the country on fire prevention will be on the program and address the Congress on subjects re-

lating to fire prevention and fire protection and the information to be gathered by attending the sessions of the Congress will be as valuable to the firemen as will the subjects covered at the Fire College.

The school work will be resumed again Friday morning and completed that day.

The Fire College will be conducted entirely under the auspices of the Fire Marshal's Office and at the expense of the department. The only expense for those attending will be their traveling and hotel expenses, which should be cheerfully defrayed by the city sending delegates as the

benefit to be derived by attending the college will be of many times more value to the cities sending delegates than the cost.

The holding of this school is one of the biggest opportunities that has ever been offered to the firemen of any state to become familiar with the latest methods and ideas of fighting fire.

This department is doing everything to make it a success and it is hoped that every town and village in the state with a fire department will co-operate with this department to the extent of sending two members from its local department to attend.



#### THE FIRE PREVENTION CONGRESS.

The Fire Prevention Congress which will be held in St. Paul Thursday, September 25th, is for the purpose of creating renewed interest in an effort to stop needless fire waste throughout the state. The Mayors of every city and town, Chairmen and members of Fire Prevention Committees and the newspaper men from throughout the state will be invited to attend the Congress. In addition to these delegates, the Fire Chiefs and Firemen attending the Fire College, which will be in session in St. Paul that week, will be expected to attend.

Several of the best known fire prevention engineers in the country will be on the program. Subjects dealing with problems affecting present day needs with reference to fire protection and fire prevention will be discussed.

The Fire Marshal has secured the aid of several Twin City men interested in fire prevention in the matter of arranging for speakers. This committee is composed of the following:

Chairman: John Townsend, St. Paul, Pres. Insurance Exchange.

W. S. Gilliam, St. Paul, Secy. Insurance Exchange.

Louis L. Law, Minneapolis, Chairman, Minn. Conservation Association.

K. V. Rothschild, St. Paul, Regional Vice Pres., Nat'l Assn. Fire Prevention Committee.

O. Winford, St. Paul, Business Mgr., St. Paul Assn. of Public and Business Affairs.

The St. Paul Assn., through Mr.

Winford, has taken an active interest in the Congress and will co-operate in every way possible for its success.

Cities and towns interested in providing new and more effective fire apparatus and extending their local water systems should send delegates to the congress.

#### OILY RAGS DANGEROUS.

Some time ago the Fire Marshal received a report of a fire occurring at Marshall, Minnesota, charged to oily rags and causing a \$17,000.00 loss.

Report states that the fire started in the basement where turpentine and oils of all descriptions were kept. Chief Volk was unable to give the exact cause, but from the circumstances it was evident that rags had been thrown on the floor or in a corner near the oil containers, becoming saturated with oil and igniting spontaneously.

Oils and turpentine should never be kept in a general store room but instead in a room built especially for that purpose, constructed of fire resisting material and properly ventilated.

Metal boxes filled with sand should be placed in front of the oil containers to catch the waste from dripping faucets, and a large box or barrel of the sand with a scoop should be placed just outside the door of the oil room to be used in case of fire.

Sand is very effective for fighting oil fires. Sawdust should never be used for this purpose.

An approved extinguisher of the carbon tetrachloride type hung just outside the oil room, furnishes excellent protection.

1919 Aug - 1922

**ORGANIZING FIRE PREVENTION  
COMMITTEES.**

The Fire Marshal's Office is engaged at this time in organizing Fire Prevention Committees in towns throughout the state of a population of one thousand and over. The object is to have a group of men in every town who will take an interest in fire protection and fire prevention work, make clean-up inspections, report bad conditions to the Fire Marshal, hold fire prevention meetings, help secure better fire fighting equipment for their local fire departments, work hand in hand with the Fire Chiefs and his men and work in every way possible to help reduce the fire hazard in their town. There is an unlimited field of work in for a committee of this kind and, as the work is of a civic nature and helps to improve the town and make it a better town to live in, the men on the committee have an opportunity to render service they could no other way.

A set program has been outlined in organizing these committees and the work has been assigned to several of the deputy fire marshals. The work is progressing nicely and the results obtained so far are most satisfactory. Already over seventy-five towns have been organized and every town in the state over one thousand population will be organized by the time the Fire Prevention Congress is held.

The deputy, on visiting a town, looks up the Fire Chief and with him calls on the Mayor or President of the Village Council. The deputy explains his mission, requesting the Mayor to name at least five men who will take an active interest in fire prevention work. These men are then duly appointed by the Fire Marshal.

After our conference with the Mayor, a general inspection is made of the town. Schools, theatres, basements, storerooms, and alleys are inspected. Clean-up orders or orders requiring buildings repaired or removed are issued where necessary. The fire department equipment is inspected and the adequacy of the city water system is looked into and a report made to the Fire Marshal on the general condition of the same.

In many cases it is found that the town is in a fairly good condition and that it has a well organized department but the fire apparatus is forty years behind the times and, in some cases, is in a most deplorable condition. The Fire Marshal then takes the matter up with the Mayor of the town by letter, urging that immediate steps be taken to provide up-to-date apparatus that can be depended upon and in order that the men, who in many cases have volunteered to serve the city in case of fire and do what they can to protect life and property from fire, may be properly equipped.

After the committee has been appointed a letter of instructions and a tentative program for the committee to follow is mailed to the Chairman.

The department will also furnish blanks to be used in making inspections. The committees will not be authorized to issue orders but will

be supplied with a form of request to be filled in and left with the owner or occupant of the property where corrections are desired. The Fire Marshal's office will stand back of the committees in this work and follow up any cases which are not complied with.

As stated above, there is an unlimited field for service in this work and with these committees all working with the same object in view, that of eliminating all unnecessary waste by fire, the annual fire loss in Minnesota is going to be greatly reduced, which will eventually mean the reduction of insurance rates and the saving of thousands of dollars to the policy holders of the state.

#### TOWNS ORGANIZED

The following is a list of towns in which Fire Prevention Committees have been organized, giving names of the Chairman:

Albert Lea, T. F. Thursten.  
Albertville, J. P. Eull.  
Austin, J. D. Sheedy.  
Barnesville, A. A. Haagenson.  
Earnum, A. H. Dothe.  
Bemidji, Charles Dailey.  
Benson, O. Soland.  
Bethel, W. Smith.  
Biwabik, J. F. Harrington.  
Bovey, J. H. Boyhtari.  
Breckenridge, W. S. Millard.  
Bronson, O. T. Danielson.  
Browns Valley, Ed. Paul.  
Brownston, Jos. H. Zander.  
Buffalo, Albert Boerner.  
Buhl, Gus Cronberg.  
Butterfield, J. W. Hubin.  
Chisholm, A. J. McAlpine.  
Coleraine, H. F. Downing.  
Currie, Henry Paal.  
Deerwood, F. L. Freeman.  
Dennison, W. W. Westcott.  
East Grand Forks, J. C. Sherlock.  
Edgerton, A. Pilling.  
Farmington, C. B. Whittier.  
Foley, Geo. E. Rice.  
Gilbert, J. J. Hurley.  
Glencoe, Henry A. Thony.  
Glenwood, W. J. Warburton.  
Granite Falls, K. K. Berge.  
Hatfield, F. C. Calhoun.  
Hendricks, N. O. Lien.  
Hibbing, Chas. McIlhargey.  
Hinckley, C. L. Jack.  
Holloway, Otto Latzke.  
Iona, F. J. Aikell.  
Ironton, G. P. Ellingson.  
Keewatin, Anton Logar.  
Kinney, H. R. Von Gorder.  
Lanesboro, T. A. Bell.  
LeSueur, Frank Grassinger.  
Lewisville, Aug. W. Abl.  
Luverne, G. E. Cottrell.  
Mahnomen, T. H. Blanchard.  
Mendota, Arthur Bernier.

Milaca, Hans Dahl.  
Monterey, Peter Wartman.  
Moorhead, N. B. Remley.  
Mora, J. E. Rheim.  
Morristown, F. H. Wilkowske.  
Nashwaik, A. Joffe.  
Nevis, Swan Rodin.  
New Auburn, James Richardson.  
Nielsville, Halvor Benson.  
Perley, M. A. Larson.  
Red Lake Falls, Milton A. Converse.  
Rochester, Roy Nichels.  
Sandstone, James Slaven.  
Santiago, J. E. Odegard.  
South Haven, Aug. Bragg.  
Spring Grove, H. M. Fladager.  
Spring Valley, K. G. Molstad.  
Stewartville, E. J. Stoyke.  
Stillwater, Ray Doyle.  
Tower, Jack Moilanen.  
Trail, E. S. Erickson.  
Twin Valley, A. I. Berg.  
Two Harbors, C. W. Dawson.  
Virginia, Thomas Gill.  
Wabasha, Henry Schwedes.  
Warren, A. C. Swandy.  
West Concord, E. L. Smith.  
West Union, Albert J. Marthaler.  
Willmar, O. A. Norman.  
Windom, W. L. Johnson.  
Winsted, Henry Wimbeck.  
Worthington, W. D. Boddy.  
Zumbrota, J. D. Grover.

#### Electric Iron Cause of Fire.

Electric irons are fine things and lessen the work in the home to some extent. Care should be exercised in using them, however, for they may result in the destruction of the home if not properly safeguarded.

On June 16th Chief Frauman of Anoka, reported a fire caused by carelessness in using an electric iron by leaving the current on the iron while not in use, resulting in a loss of \$400.00.

One of the common causes of this class of fires is that while the housewife or maid is engaged in ironing or pressing, a door bell or phone rings, and she answers the call, forgetting to turn off the current on the iron. If the iron is left standing with the ironing surface on the board, it soon becomes red hot, setting fire to the board.

Cases have been reported where an iron left in this way has burnt through the board and fallen to the floor, burning through and setting fire to the floor.

Such fires would not occur if the user would always be careful to turn off the current when leaving it.

As a precaution, an electric iron should not be used in connection with an ordinary outlet or electric light fixture, but only on an outlet equipped with a red pilot light, which always cautions the user by showing a red light when the current is on.

#### BUILDINGS CONDEMNED IN ST. PAUL SINCE JANUARY 1, 1919.

January.

Description.

Owner.

Street No.

Ls. 18-19, Blk. 80, St. Anthony Park .....	Line Floor Covering Co.	Barn
L. 19, Blk. 1, Woodland Park Add. ....	Wm. H. Eberspacher	581 Dayton Ave.

L. 12, B. 47, St. Anthony Park No. ....	Viola S. Benner.....Fire escape
L. 4, Auditor's Sub. Div. No. 52 .....	Frank S. Burns.....191 W. 3d St .
L. 11, B. 3, Bazil & Guerin's Add. ....	Chas. W. Staehle.....59 W. 10th St.
L. 12, B. 3, Bazil & Guerin's Add. ....	Anna Marks .....53 W. 10th St.
L. 5, B. 5, Robt. & Randall's Add. ....	Dennis H. Bradley.....58 11th St.
S½ L. 1, B. 4, and N½ of N½ L. 11, 12, B. 4, Rice & Irvine's Add. ....	Edmund W. Bazille.....411-13-15-19 No. Ex.
L. 1, 2, B. 56, Rice & Irvine's Add. L. 1, 2, B. 56, Enlarge- ment Irvine's .....	Zenith Land Co.....413 Main St.
W½ L. 11, B. 4, Root and Randall's Add. ....	Otto Bremer .....59 E. 11th St.
Part L. 1, B. 4, Rice & Irvine's Add. ....	Geo. Roedler .....412-23 N. Exchange
	February. ...
L. 3, S. 12½ ft. L. 4, B. 3, J. B. Weide's Add.....	Kive Ackert .....1123 Payne Ave.
L. 5, B. 3, Anna E. Ramsey's Add. ....	Thos. E. Sime.....1240 Marshall Ave.
L. 11, A. Gotz Sub. Div. B. 107, Lyman's Add.....	Jas. Tierney .....979 E. Margaret St.
L. 4, B. 11, Fairview Add....Lado Land Co.....	1009 Bradley St.
S. 45 ft. L. 6, B. 1, ex. W 50 ft., DeBaw, Smith, Risque & Williams' Add.....	Anna W. Wieman.....316 John St.
	March.
S. 2-3, W½ L. 5, L. 6, B. 4, Rice & Irvine's Add.....	Chas. H. Schliek.....414 Main Ave.
	April.
W. 20.75 ft. L. 1, B. 6, Rice & Irvine's Add. ....	C. P. Abbott.....152 W. 6th St.
L. 4, 5, B. 6, Whitney & Smith's Add. ....	J. H. Schurmeier Rlty. Co. ....405-7-15 Rosabel
L. 3, B. 7, Lake Park Add....Theo. & A. O. Garrison....	1537 Como Ave.
L. 4-5, B. 4, Whitney & Smith's Add. ....	John A. Berkey.....281-295 E. 7th St.
	May.
L. 4, Irvine's Enlargement, Rice & Irv.....	Hannah Cogney .....97 Smith Ave.
L. 6, Ex. N. 50, B. 60, Rice & Irvine's Add. ....	Emil Geist .....111 Smith Ave.
L. 5, B. 60, Rice & Irvine's...Isabella McLeod .....	105 Smith Ave.
L. 1-2, Aud. Sub. Div. No. 52..N. W. Trust Co.....	240 Selby Ave.
L. 3, B. 56, Rice & Irvine's Add. ....	Anna E. Sweeny.....236 E. 9th St.
N. 26 ft. L. 1, B. 3, Rice & Irvine's Add. ....	House & Home Realty Co. ....417 Franklin
L. 14, B. 59, Rice & Irvine's Add. ....	Marcel Guibert .....145 College Ave.
L. 4, B. 3, Hoyt's Add.....	Wm. A. Hardenburgh.....218-29 E. 8th St.
E. 100 ft. L. 1, N. 10 ft. E. 100 ft. L. 2, B. 2, Robert & Randall's Add. ....	Otto Bremer .....579 Jackson St.
L. 7, V. D. Walsh Rearg. L. 1 and 2, B. 16, Robt. & Randall's Add. ....	Miles H. Fisher.....467 Temperance St.
N. 48 ft. L. 2, all L. 3, Hoyt's Sub. Div. ....	Dore, Redpath Co.....506 Jackson St.
S. 87½ ft. L. 6 and 7, B. 7 Robt. & Randall's Add....Frank H. Ewing.....	538-42 Robert St.
N. 27 ft. S. 80 ft. L. 1, B. 3, Rice & Irvine's.....	Albertina Claus .....419 Franklin St.
	June.
L. 62, Hewitt's Out Lots, 1st Div. ....	John D. Barrett.....
N. 62, 50 ft. L. 6 and 7, B. 7, Robt. & Randall's.....	Filben Court Realty Co. ....132 E. 11th St.
L. 3, B. 2, Robt. & Randall's Add. ....	Wm. A. Dorsey.....571 Jackson St.
W. 50 ft. L. 1 and 2, B. 2, Robt. & Randall's Add....Ida L. Hensel.....	577 Jackson St.
L. 1, Auditor's Sub. Div. No. 19 .....	Burns Lbr. Co.....722 E. 7th St.
L. 11, B. 6, Winslow's Add...Lewis L. May Co.....	124-6-8 Western Av.
L. 3, B. 8, Bazil & Guerin's Add. ....	C. P. Hawley.....14 W. Exchange.

**EXERCISE CARE IN USING  
CANDLES.**

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Frequently the electric light plant in a town breaks down or, for some reason or other, the electric light service is temporarily put out of commission.

At such times the residents of a town have to resort to other means for artificial light. Oil lamps, many of which are old and dangerous, and candles are brought into use, which occasionally are the cause of fire.

Some time ago a fire was reported which, fortunately, did little damage, but, nevertheless, it caused a fire which a little carefulness would have prevented.

A report received by the Fire Marshal was to the effect that the electric light plant in the town broke down and candles were being used in a general store for lighting. The lady in charge of a department on the second floor of a store went down stairs, leaving a candle burning on a pasteboard box. While she was gone, the candle tipped over, causing a fire. Had the candle been properly placed in a candle stick in a location where it would not easily have blown over, this fire would have been prevented.

Fires seldom start where carefulness is exercised.

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## NOTICE

**The Fire Marshal's  
office is now lo-  
cated in rooms 329  
330 and 331,**  
**STATE CAPITOL**

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JUN 17 1919

STATE OF MINNESOTA

# FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330. State Capitol

No. 2

Saint Paul

August 15. 1919

## Minnesota State Fire College

Saint Paul, September 22 to 26

A School of Instruction for Firemen, Conducted Under the  
Auspices of the State Fire Marshal's Office



SAINT PAUL ARMORY, WHERE STATE FIRE COLLEGE WILL BE HELD

## Fire Prevention Congress

Saint Paul, September 25, 1919

## FIRST AID AND RESCUE WORK.

One of the chief essentials in trained fire fighting is a thorough knowledge of first aid and rescue work.

How a life snuffed out by smoke or a fall a knowledge of either would have prevented is not unknown, and yet how few firemen are versed in their simplest rudiments.

To impart this useful knowledge is one of the objects of the Fire College which will open in St. Paul September 22nd under the supervision of the State Fire Marshal. Few subjects to be treated at the Fire College exceed it in value to the trained fire fighter.



Every man connected with the Fire Department, whether volunteer or paid, should understand the fundamental principles of first aid and rescue work. It is a duty he owes not only to himself but the public he has obligated himself to protect, and the course offered is one that will more than enable him to meet the debt.

The subject is covered in its entirety. Carrying a dead weight, even though it may be under most difficult conditions, is not always difficult if the fireman is physically fit, but when that dead weight is a human body, more than physical strength is required.

How to lift this dead weight without undue strain on the fireman and at the same time without injury to helpless or perhaps unconscious victim of the fire demon is something that calls for training and it is here where the College supplies the knowledge.

Where there are injured, there is always need of first aid and while all trained fire fighters may have a more or less knowledge of this one essential, few are in possession of its full requirements.

Calls to furnish a temporary splint, to bind a cut or stop a flow of blood frequently confront the fire fighter and it is just as necessary that he be equipped with a knowledge of how to respond as it is for him to properly direct a stream of water upon the devouring flames.

The First Aid and Rescue Course provided by the College is complete in every detail. Live subjects provide the material for the student firemen and these are supplemented by lectures and experiments in which every phase of the work is covered.

## PHYSICAL TRAINING.

One of the first subjects to be taken up at the Fire College will be Physical Training.

A Fire Department is no better than its personnel, and its personnel is no better than its physical condition.

Fighting fire is hard work and many times firemen are forced to exert physical energy in performing their duties until they are completely exhausted, where had they been in good physical condition they would not have given out. Climbing ladders is hard work and takes wind. Exercise that develops the breathing power helps to overcome this.

Mr. Wolf's training is along the line used in our regular army which helped to make our fighting men the

most effective fighting force on the battlefields of France.

It is just as important that men who fight fire are physically fit as that men in the army are physically fit in order that they may easily endure the strenuous task imposed upon them.

How many times it has occurred that firemen have arrived at a fire exhausted and almost unfit for duty, especially where hand apparatus is used and they have had to use their strength in hauling the apparatus by hand through streets in bad condition. Of course this type of equipment is rapidly being replaced with motor driven trucks but, nevertheless, physical training is important and a thing that should be adopted by every department which wishes to be efficient.



The program covering First Aid and Rescue Work is as follows:

### RESCUE EXERCISES.

1. Firemen's lift.
2. Dead man's lift.
3. Invalid's lift.
4. The lifting and carrying of animate and inanimate persons down interior stairs by the several methods.
5. Placing of the proper hitches to a person for lowering from a building.
6. How to cover and remove a corpse from a building.
7. Demonstration and practice in tying standard knots for Fire Department work.

### FIRST AID EXERCISES.

1. Splinting of fractures.
2. Placing a broken arm at rest.
3. Resuscitation (Sylvester & Schaefer methods).
4. Instruction in the use of life nets.
5. Protection to men who are compelled to jump.
6. Review.
7. A lecture on rescue work taking up the subjects of resuscitation, life nets, fractures, suffocation, how to combat ammonia, acid and chemical fumes, ventilation, demonstration and instruction in the use of gas masks.
8. Dangers to be avoided by firemen.

## HIGH COST OF LIVING.

In one elevator fire in Chicago, not much noticed, enough wheat was destroyed to furnish bread to the first American army under General Pershing in France for five years and two months. In a Brooklyn fire over \$3,000,000 worth of wheat went up in smoke.

Many fires have been caused, and continue to occur throughout the country, by lightning, where in many instances fire could have been prevented had such buildings been equipped with lightning rods, properly installed.

The matter of fire protection is educational. There is no soft and easy road to success in this undertaking. Just as you think that everything is fine and no fires comes the many little innocent causes against which no precaution has been taken and out bursts the flames and up goes the building with perhaps the accumulated savings of a lifetime.

Fire prevention is nothing more than common sense and forethought applied to our buildings and to the equipment installed.

## A WORD TO CITY OFFICIALS.

Don't permit your city to lose the opportunity offered by the Fire Marshal's office through the Fire College to be held in St. Paul the week of September 22nd to increase the efficiency of your local Fire Department.

The College is being endorsed and highly commended by the most prominent Fire Chiefs in the state and all the cities interested in better fire protection are going to take advantage of it. Don't let your city lose out on this.

Efficiency in fighting fire is just as important as in any other line of endeavor. The only way it can hope to be attained is by making a study of the most effective ways of fighting fires. If every fire was of the same nature and originated in the same way it would be easier to handle

them, and a fixed method of fighting fire could be established, but this is not the case. While it is true that many fires originate in the same way, nearly every one produces some new obstacle which must be overcome.

With the rapidly changing conditions in manufacturing establishments where industrial progress has meant the introduction of new and complex hazards, the need of some means of keeping the department informed of new ideas and progress in methods of handling fires is imperative. No matter whether the fire occurs in a large manufacturing plant or the smallest dwelling, the need of a better knowledge of modern up-to-date fire fighting and a thorough understanding of just what fire apparatus will do and how it may be used to

the best advantage is most important.

It is essential that every member of a department know just what his duties are as a fire fighter in order that the department will lose no time in getting into action. Inefficiency, loss of time and confusion delay action and permit fire to spread and often get beyond control. Little damage is done where the department arrives at the scene of a fire quickly and every man on the job is well trained and understands his business.

Up-to-date fire fighting equipment counts for little unless the men who are to handle it know just what every part of it is for and how it should be used. The proper way is the simplest way and the most effective and the departments well trained are the departments that will furnish the best protection when called upon.



MR. WOLF  
EXECUTING  
TWO  
OF HIS  
EXERCISES  
USING  
LIFE NET  
AND LOWERING  
BODY FROM  
BUILDING



## TOWNS ORGANIZED.

The following is a list of towns in which Fire Prevention Committees have been organized, giving names of the Chairman:

Ada, R. R. Betcher.  
Aitkin, Frank R. Erickson.  
Albert Lea, T. F. Thursten.  
Albertville, J. P. Eull.  
Austin, J. D. Sheedy.  
Barnesville, A. A. Haagenson.  
Parnum, A. H. Dothe.  
Bemidji, Charles Dailey.  
Benson, O. Soland.  
Bethel, W. Smith.  
Biwabik, J. F. Harrington.  
Bovey, J. H. Boyhtari.  
Breckenridge, W. S. Millard.  
Bronson, O. T. Danielson.

Browns Valley, Ed. Paul.  
Brownnton, Jos. H. Zander.  
Buffalo, Albert Boerner.  
Buhl, Gus Cronberg.  
Butterfield, J. W. Hubin.  
Cambridge, J. B. Johnson.  
Chisholm, A. J. McAlpine.  
Coleraine, H. F. Downing.  
Currie, Henry Paal.  
Detroit, G. J. Norby.  
Deerwood, F. L. Freeman.  
Dennison, W. W. Westcott.  
East Grand Forks, J. C. Sherlock.  
Edgerton, A. Pilling.  
Elk River, J. H. Virgin.  
Farmington, C. B. Whittier.  
Foley, Geo. E. Rice.  
Gilbert, J. J. Hurley.  
Glencoe, Henry A. Thony.  
Glenwood, W. J. Warburton.  
Graceville, John C. Lyttleton.  
Granite Falls, K. K. Berge.  
Hatfield, F. C. Calhoun.  
Hendricks, N. O. Lien.

Hibbing, Chas. McIlhargey.  
Hinckley, C. L. Jack.  
Holloway, Otto Latzke.  
Iona, F. J. Aikell.  
Ironhton, G. P. Ellingson.  
Jordan, Alois M. Schaefer.  
Keewatin, Anton Logar.  
Kinney, H. R. Von Gorder.  
Lanesboro, T. A. Bell.  
LeSueur, Frank Grassinger.  
Lewisville, Aug. W. Abl.  
Litchfield, O. N. Vig.  
Long Prairie, Ray Lee.  
Luverne, G. E. Cottrell.  
Mahnomen, T. H. Blanchard.  
Mendota, Arthur Bernier.  
Milaca, Hans Dahl.  
Monterey, Peter Wartman.  
Moorhead, N. B. Remley.  
Mora, J. E. Rheim.  
Morristown, F. H. Wilkowske.  
Mountain Lake, A. A. Penner.  
Nashwaik, A. Joffe.  
Nevis, Swan Rodin.

# FIRE MARSHAL BULLETIN

New Auburn, James Richardson.  
Nielsville, Halvor Benson.  
Olivia, Ed. Lindquist.  
Perley, M. A. Larson.  
Pine City, J. V. Breckenridge.  
Princeton, S. E. Vandevawter.  
Red Lake Falls, Milton A. Converse.  
Rochester, Roy Nichels.  
Royalton, H. M. Logan.  
Rush City, P. W. Smith.  
Sandstone, James Slaven.  
Santiago, J. E. Odegard.  
South Haven, Aug. Bragg.  
Spring Grove, H. M. Fladager.  
Spring Valley, K. G. Molstad.  
Stewartville, E. J. Stoyke.  
Stillwater, Ray Doyle.  
Tower, Jack Moilanen.  
Trail, E. S. Erickson.  
Twin Valley, A. I. Berg.  
Two Harbors, C. W. Dawson.  
Virginia, Thomas Gill.  
Wabasha, Henry Schwedes.  
Warren, A. C. Swandby.  
West Concord, E. L. Smith.  
West Union, Albert J. Marthaler.  
Wheaton, J. Theo. Anderson.  
Wilmar, O. A. Norman.  
Windom, W. L. Johnson.  
Winsted, Henry Wimbeck.  
Worthington, W. D. Boddy.  
Zumbrota, J. D. Grover.

## FIRE PREVENTION.

The subject is a big mouthful and no wonder people gasp when they are confronted with the enormous fire waste that could be prevented.

At one time it was thought that the only work of a Fire Marshal was to look into and prosecute for suspicious fires.

## Children and Matches

When will parents or guardians ever learn to keep matches out of the way of children? Three freshly made graves in an Otter Tail County cemetery at home and its contents ~~can't~~ destroyed and the grief stricken mother wondering how it all happened, is the latest addition to the long list of those recorded.

It was a modest farm house according to the officer who reported the fire and the loss was less than \$300. with no insurance either on the house or the contents. The mother had gone on an errand, leaving her three little children, the eldest four years old, alone. When she returned the little home was a wreck and the children a charred mass.

## NOTICE.

### To Chairmen of Fire Prevention Committees:

There has been some delay in getting out the inspection blanks promised a few days ago. These will be mailed out to you as soon as they are off the press, which it is hoped will be within the next few days.

## When Reporting a fire

State the circumstances of the fire, indicating how and where it originated, and any other material facts.

"Carelessness" can not be accepted as a cause of a fire because all fires save those from an adjoining fire, incendiary and lightning result from carelessness.

"**Adjoining Fire**" applies in all cases in which the burning of a nearby building is the cause.

"**Burning Rubbish**" indicates the cause to have been sparks from a pile of rubbish which was being burned to get rid of it, while "rubbish burning" indicates that sparks of a fire lighted rubbish.

"**Overheated Stove**" is not explicit enough. What was ignited by it should be stated. A sound stove properly placed and protected cannot burn a house by being overheated.

"**Sparks.**" Tell the source of the spark and what it ignited. If from an engine it should be shown, if it came from a locomotive, or a traction or a stationary engine.

"**Lightning**" being the cause give answers to the following questions: Did the building have a lightning rod on it? If it was rodded, how long has the rod been up? What kind of metal was it? Whose make was it? What agent put it up? Was it in good repair? How was it grounded? Did it have two ends on the ground?

"**Spontaneous Combustion.**" Tell the material in which it accured and the conditions as to ventilation.

"**Gasoline.**" All gasoline fires start with an explosion. In every case state exactly how the gasoline was being used and tell what flame started the explosion. If it was in a stove or lamp tell the kind and name of maker if possible.

"**Unknown.**" Merely stating the cause of the fire as "unknown" is not sufficient.

"**REMARKS.**" Under this head give all details obtainable in connection with the origin of the fire. State if suspicions of incendiary origin or not, and grounds for suspicion, if any.

## Careless Auto Parking

Minneapolis was recently the scene of a costly livery stable fire, due largely to the careless parking of automobiles. When the department answered the call it was to find the only fire hydrant available walled off by a row of parked machines, which had to be pulled away before the hose could be attached.

In the meantime the fire gained headway, and finally when the water was turned on, the building was a wreck and a number of valuable horses had perished. While the fire originated from a cause unknown, the large loss was due entirely to the

parked automobile. Suit will likely be brought against the offenders for a part of the loss.

Parking automobiles adjacent to or up against a fire hydrant, is one of the chief "DON'TS" of every traffic or auto regulation ordinance, but it is more often violated than observed. This is largely so in the residence or less populous districts of the average municipality. Here the official eye is not so observant.

Keep your hydrants and water supply clear of all obstructions.

## The Ever Handy Oil Can

Kindling the fire with gasoline or kerosene is an old story and so is the record of its thousands of victims. Hastening the tardy meal with the aid of the oil can has been the basis of jokes innumerable, not to mention the warning "Don'ts" of the more serious, still its victims are none the less.

The latest credit to the ever handy oil can comes from Wilkin County where an aged woman was burned to death in a fire which completely destroyed her home. There were no eye witnesses, but a cook stove, the victim lying close by and a wrecked oil can was sufficient to complete the record.

In Wabasha County it was a twelve year old boy who tried to hasten a reluctant cook stove fire with gasoline. The can exploded and he died in frightful agony a few hours later. The home was only slightly dam-

## Read and Reflect

Oil soaked rags carelessly thrown in the closet of an office building under repair caused a \$5,000 loss in Mankato. Painters engaged in decorating some of the offices tossed some oil soaked rags in a disused closet, forgot about them and spontaneous combustion resulted.

Smoking in bed is not a common cause of fire, but such is held responsible for a fire which recently badly damaged a residence at South St. Paul. "A woman's fondness for the weed" was the chief feature of the fire officers report of the blaze.

"Reviving a fire in a cook stove with kerosene" is the way a township clerk in Martin County records a recent fire in his district. And he adds: "The can was about one-half full, a frightful explosion followed, the woman was instantly killed and the house was badly damaged".

Total loss and no insurance reads a report from Pope County describing a fire which destroyed a barn and its contents. Lightning was responsible, and the barn was not rodded.

**NOTICE**  
**THE FIRE MARSHAL'S OFFICE IS  
NOW LOCATED IN ROOMS 329, 330  
AND 331, STATE CAPITOL.**

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UNIVERSITY OF MINNESOTA LIBRARIES

JULY 29 1920

# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330. State Capitol

No. 3

Saint Paul

September 15. 1919

## THREE IMPORTANT EVENTS

### MINNESOTA FIRE COLLEGE

SAINT PAUL, SEPTEMBER 22 TO 26

At The Armory.

Every Fire Department Should Be Represented

### FIRE PREVENTION CONGRESS

THURSDAY, SEPTEMBER 25

Palm Room, Saint Paul Hotel.

Everyone Interested In Fire Prevention Is Invited

### PATRIOTIC FIRE PREVENTION DAY

OCTOBER 9, 1919

The day will be observed throughout the nation in the interest of Fire Prevention. May Minnesota take the lead in making it a state wide campaign against fire and fire hazards and may no fires occur in Minnesota on that day

## FIRE MARSHAL BULLETIN

### MAKE DECORATIONS SAFE.

Flimsy decorations such as often adorn the parlor or sitting room of a home are a frequent cause of fire, yet how many persons think of fire-proofing the same. Especially is this so in the case of public festivities where bunting abounds and the walls and ceilings are a mass of paper lanterns and cotton pennants and signs.

Fireproofing such decorations, says Fire Marshal H. E. Butz of Pennsylvania, is the simplest thing in the world and only costs a few cents. Commercial ammonium phosphate, one pound and a gallon of water, he says is an excellent and a sure fire preventative.

Fabrics immersed in this solution, slightly wrung, and dried will not ignite when touched with flame, and further more, when placed directly in flames, the material will only char, and upon removal there will be no smouldering fire. To obtain these results care must be exercised to see that the fabric is completely saturated with the fireproofing solution and that sufficient of the absorbed solution remains in the fabric, so that after wringing, and upon evaporation of the water, ample ammonium phosphate remains on the fibre to fire-proof it. Ammonium phosphate in addition to its great fireproof qualities has the power to render the dye fast.

The solution may be mixed in larger or smaller quantities so long as the same proportion of ingredients is used; that is, one pound of commercial ammonium phosphate to one gallon or ten pounds of water, making it a ten per cent solution. The solution is harmless and is not injurious to the skin. It may be used for a variety of fireproofing purposes where cotton, wool or silk materials are worn or used near fire, especially where persons are working near furnaces or upon flames. Curtains, draperies, children's clothes and decoration of all kinds in houses as well as in stores and hotels should be fire-proofed.

When a fabric that is fireproofed is immersed in this solution, do not wring it out any more than you would wool underwear when washing in the usual way.

### FIRE LOSS LESS.

Losses by fire in the United States and Canada reached a total of \$20,475,550 for the month of June. For the first six months of the year the aggregate was \$131,016,975. Losses for June were over \$4,000,000 less than for June of last year, but despite the decrease, the amount is regarded excessive for a summer month.

### HELPING THE FIREMEN.

If you are strong on watching the local fire department answer a call and the fireman work, try a few of the following:

Start the kitchen fire with kerosene or gasoline.

Fill the lamp with gasoline.

Clean garments indoors with gasoline.

Fill the gasoline stove by lamp-light.

Set stoves near the wall, especially those that overheat easily.

If the baby is fretful give him a box of matches to play with.

Put all hot ashes in a wooden box on the back porch.

Leave the electric iron turned on while you answer the phone or visit with your next door neighbor.

Keep the oil mop and oily rags in a nice warm airtight closet.

Burn all trash near the house if it is a windy day.

The way to stop fires is to eliminate the causes that lead up to blazes. This can be done by constant vigilance and thorough inspection.

### DWELLINGS HEAD LIST.

According to figures for 1917, compiled by the actuarial bureau of the National Board of Fire Underwriters, 65 per cent of the fires (including farm property) that occurred were in dwelling houses; and the losses made 28.5 per cent of the total losses of the United States.

There were 232,021 dwelling house fires with a loss of \$66,166,420.

These figures make it clear, that while the heaviest losses occur in the burning of large manufacturing plants, and other big business properties, the greatest number of fires take place in the homes.

### WE'LL SAY SO.

I'd rather be a one-gallus sodbuster in a ten acre patch and make my living fighting red bugs, ticks and boll weevils than live in a terra cotta trimmed mansion with a three stall garage on income from a row of fire traps with wooden stairways and cracked flues. Selah! (Meaning 'I'll say so.'")—Southern Construction News.

### SPECIAL NOTICE.

#### To Members of Fire Prevention Committees.

Members of all Fire Prevention Committees organized throughout the state by the State Fire Marshal should make a special effort to attend the Fire Prevention Congress to be held at the St. Paul Hotel in the city of St. Paul, Thursday, September 25th.

By attending, you will gather much valuable information which will be most helpful to you in serving on your local Fire Prevention Committee.

In addition to the benefit to be derived by attending this meeting, there will be a special meeting of Local Fire Prevention Committees only to be held at the Capitol on Friday morning, September 26th, at 10 o'clock.

It is hoped that every committee in the state will be represented at this meeting.

### STOP CHIMNEY FIRES.

This is the season when reports of fires due to defective chimneys and small blazes caused by sparks from chimneys increase. Already the fire reports are being cluttered with the usual incipient fires incident to such.

One of the commonest varieties of dwelling house fires is that traceable to defective chimneys and the lack of precautions in starting fires in long disused stoves, grates and furnaces. They begin with the first lowering of the temperature and increase as the weather grows colder.

Every home is not visited by fire but that is not because the owner has taken all of the proper precautions to prevent it. It is more often due to the fact that the conditions are not all just right for a fire to start but the conditions may be just right one of these times and a fire may start when least expected and you and your family may be routed out of bed some night when it is thirty below zero just because you have not taken the precautions necessary to guard against fire.

Every heating plant should be carefully inspected in the fall before fire is started in the same. Smoke flues should be examined to see that they have not rusted through and that the joints fit together well and all chimneys should be cleaned at this time of the year.

Other precautions to be taken with reference to heating plants, stoves etc., are as follows:

Place stoves, furnaces and pipes far enough from walls and woodwork to avoid overheating.

Cover the nearest wooden surfaces with sheet asbestos, sheet iron or tin; if iron or tin is used, leave an air space behind it.

Where stovepipes or heating pipes pass through walls, enclose the pipes in galvanized iron, double-walled, ventilated thimbles at least twelve inches wider than the diameter of the pipes.

Protect the floor beneath the stove with sheet metal, and have it extend forward at least twelve inches directly beneath the door to the ash-pit.

Surround the base of the furnace with brick, stone or concrete.

Make sure that all pipes are free from rust, and that all joints and connections are sound and tight.

Fix a guard about the pipe in the attic so that nothing may be stored against it.

Never pour kerosene into a coal or wood stove, even when the fire is out.

Never put ashes into wooden boxes or barrels; have a strong metal can.

Study the drafts and dampers.

Do not let the stove or pipes become red-hot.

Keep stoves, furnaces, flues and chimneys clean.

Inspect the chimneys and flues to be sure that they are sound.

Do not dry wood in an oven.

Do not hang wet clothing too near to a stove.

Keep curtains and other cloth away from stoves and pipes.

# FIRE MARSHAL BULLETIN

3

## TOWNS ORGANIZED.

The following is a list of towns in which Fire Prevention Committees have been organized, giving names of the Chairmen

Ada, R. R. Betcher.  
Aitkin, Frank R. Erickson.  
Akely, John Theis.  
Albert Lea, T. F. Thursten.  
Albertville, J. P. Eull.  
Austin, J. D. Sheedy.  
Barnesville, A. A. Haagenson.  
Barnum, A. H. Dothe.  
Bagley, E. R. Sletten.  
Baudette, E. G. Beckman  
Bird Island, Edward Anderson.  
Bemidji, Charles Dailey.  
Benson, O. Soland.  
Bethel, W. Smith.  
Biwabik, J. F. Harrington.  
Bovey, J. H. Boyhtari.  
Breckenridge, W. S. Millard.  
Bronson, O. T. Danielson.  
Browns Valley, Ed. Paul.  
Brownston, Jos. H. Zander.  
Buffalo, Albert Boerner.  
Buhi, Gus Cronberg.  
Butterfield, J. W. Hubin.  
Cambridge, J. B. Johnson.  
Canby, Henry Landru.  
Chisholm, A. J. McAlpine.  
Coleraine, H. F. Downing.  
Crosby, H. M. Koop.  
Currie, Henry Paal.  
Detroit, G. J. Norby.  
Deerwood, F. L. Freeman.  
Delano, Wm. Heinen.  
Dennison, W. W. Westcott.  
East Grand Forks, J. C. Sherlock.  
Edgerton, A. Pillings.  
Elk River, J. H. Virgin.  
Ely, Fred B. James.  
Excelsior, George Munger.  
Farmington, C. B. Whittier.  
Fergus Falls, E. A. Solem.  
Foley, Geo. E. Rice.  
Fosston, H. J. Dahl.  
Frazee, H. M. Hoel.  
Gilbert, J. J. Hurley.  
Glencoe, Henry A. Thony.  
Glenwood, W. J. Warburton.  
Goodhue, L. N. Schinnert.  
Graceville, John C. Lyttleton.  
Granite Falls, K. K. Berge.  
Hatfield, F. C. Calhoun.  
Hendricks, N. O. Lien.  
Heron Lake, A. E. Davis.  
Hibbing, Chas. McIlhargey.  
Hinckley, C. L. Jack.  
Holloway, Otto Latzke.  
International Falls, John Berg.  
Iona, F. J. Aikell.  
Ironton, E. R. Burns.  
Jordan, Alois M. Schaefer.  
Keewatin, Anton Logar.  
Kenyon, H. E. Bergh.  
Kinney, H. R. Von Gorder.  
Lanesboro, T. A. Bell.  
LeSueur, Frank Grassinger.  
LeSueur Center, T. A. Pomije.  
Lewisville, Aug. W. Abl.  
Litchfield, O. N. Vig.  
Long Prairie, Ray Lee.  
Luverne, G. E. Cottrell.  
Madelia, James Davis.  
Mahnomen, T. H. Blanchard.  
Mendota, Arthur Bernier.  
Milaca, Hans Dahl.  
Minneota, P. M. Berg.  
Monterey, Peter Wartman.  
Moorhead, N. B. Remley.  
Mora, J. E. Rheim.

Mountain Lake, A. A. Penner.  
Morristown, F. H. Wilkowske.  
Nashwauk, A. Joffe.  
Nevis, Swan Rodin.  
New Auburn, James Richardson.  
Nielsville, Halvor Benson.  
North Mankato, Jno. E. Larson.  
Olivia, Ed. Lindquist.  
Owatonna, F. G. Schuman.  
Park Rapids, C. W. Wilkins.  
Pelican Rapids, Henry Olson.  
Perley, M. A. Larson.  
Perham, John Esser.  
Pierz, Frank Faust.  
Pine City, J. V. Breckenridge.  
Princeton, S. E. Vandevawter.  
Proctor, J. B. Eales.  
Red Lake Falls, Milton A. Converse.  
Rochester, Roy Nichels.  
Royerton, H. M. Logan.  
Rush City, P. W. Smith.  
Sandstone, James Slaven.  
Santiago, J. E. Odegard.  
Sauk Rapids, Len Morrison.  
Shakopee, William Ries.  
South Haven, Aug. Bragg.  
South St. Paul, A. S. Francis.  
Spooner, J. M. Peterson.  
Spring Grove, H. M. Fladager.  
Spring Valley, K. G. Molstad.  
St. James, C. T. Crowley.  
St. Peter, Wm. E. Thomas.  
Staples, M. H. Hammond.  
Stewartville, E. J. Stoyke.  
Stillwater, Ray Doyle.  
Tower, Jack Moilanen.  
Trail, E. S. Erickson.  
Twin Valley, A. I. Berg.  
Two Harbors, C. W. Dawson.  
Virginia, Thomas Gill.  
Wabasha, Henry Schwedes.  
Wadena, Jesse Aldrich.  
Walker, F. S. Grindall.  
Warren, A. C. Swandy.  
Waterville, J. J. Worlein.  
West Concord, E. L. Smith.  
West Union, Albert J. Marthaler.  
Wheaton, J. Theo. Anderson.  
Willmar, O. A. Norman.  
Windom, W. L. Johnson.  
Winsted, Henry Wimbeck.  
Worthington, W. D. Boddy.  
Zumbrota, A. E. Collings.

## NOTED MEN INVITED.

The program for the Fire Prevention Congress, which, with its added attraction a practical and fully equipped Fire College, will open in St. Paul, September 22, is practically completed. Many men prominent in fire fighting and prevention work are listed among the speakers, while the Fire College will have as its head and chief instructor, Leon L. Wolf, the well known physical director of the Cincinnati fire department.

The program both for the College and Congress is a varied one, and will include many men of national note.

The program for the Fire Prevention Congress as arranged at this time is as follows:

10:00 A. M. Address of Welcome,  
Hon. J. A. A. Burnquist, Governor,  
Minnesota.

Response: Hon. J. M. Diment,  
Mayor, City of Owatonna.

Fire Prevention Address: Hon. T.  
Alfred Fleming, State Fire Marshal,  
Ohio.

Adjournment.

2:00 P. M.—Modern Fire Fighting

and the Evolution of Fire and Water Losses of Yesterday and Today, Leon L. Wolf, Physical Director, Cincinnati Fire Department.

Fire Apparatus for Towns and Villages, E. R. Townsend, Manager, Western Engineering Bureau.

Round Table Discussion led by James F. Joseph, Chairman, Chicago Advisory Committee, National Board of Fire Underwriters.

While the Congress will deal in subjects and topics of interest to every person interested or engaged in fire prevention and suppression, the one thing of interest to organized firemen of Minnesota will be the Fire College, which will precede the Fire Congress and which will continue for two days following adjournment of the latter. The College will open in the St. Paul Armory on the morning of September 22 and will continue through the 23rd, 24th and 25th, when it will be temporarily suspended to permit the holding of the Fire Prevention Congress at the St. Paul Hotel. On September 26th the Fire College will again resume and continue through to the 27th, when it will come to a close.

As announced in previous issues of the Bulletin, the object of the Fire College is to give Minnesota firemen a short course in modern methods used in fighting fire. No man is better equipped for this work than Professor Wolf of the Cincinnati department. His equipment for practical demonstration as it relates to first aid and rescue work has already arrived. It is the most complete of its kind in the United States and represents much in the way of research and study. Every phase and detail of modern fire fighting will be covered.

Showing the extent of the course, the subjects to be covered and which in a majority of cases will be made plain by practical demonstration, will include physical training, first aid and rescue work, hose exercises, fire duty, knots, ventilation and lectures on the use of gas masks and smoke helmets. The Armory, where the Congress will be held, is ideal for the demonstrations planned by Mr. Wolf and which will be carried out to the fullest detail.

Both the Fire College and Fire Prevention Congress will be entirely under the supervision of the State Fire Marshal's department, and the gratifying feature of the movement to date has been the interest displayed by firemen and those interested in fire prevention work. In communicating with heads of cities and towns and fire departments generally much stress has been laid on the importance of the two institutions. Fire department and city officials have been asked to name delegates to both and the responses as a rule have been most satisfactory.

The principal expense of those attending the College will be that attendant upon traveling and lodging which will no doubt be defrayed by the cities and towns sending firemen and delegates. The benefits to be derived are many times worth the investment.

# FIRE MARSHAL BULLETIN

**THE MINNESOTA FIRE COLLEGE OPENS AT THE ARMORY IN ST. PAUL, MONDAY MORNING, SEPTEMBER 22ND, AT 10 O'CLOCK. THE ARMORY IS LOCATED AT THE CORNER OF SIXTH AND EXCHANGE STREETS. IT IS MOST IMPORTANT THAT EVERY FIREMAN DESIRING TO ENTER THE CLASS BE AT THE ARMORY AT THE APPOINTED HOUR.**

## P R O G R A M

### **MONDAY 10:00 A. M. ST. PAUL ARMORY.**

1st Paper on Fire College Work by Leon L. Wolf, Instructor.

2nd Formation of Class.

3rd Physical Exercises.

4th Rescue Exercises.

1st Firemen's Lift.

2nd Dead Man's Lift.

### **MONDAY 1:30 P. M.**

Continuance of Rescue Exercises.

3rd Invalid's Lift—the lifting and carrying of animate and inanimate persons down interior stairs by the several methods.

4. Placing of the proper hitches to a person for lowering from a building.

5th How to cover and remove a corpse from a building.

6th Demonstration and practice in the tying of standard knots for Fire Department Work.

### **TUESDAY 9:00 A. M.**

1st Raise twenty-five foot portable ladder to second story window in building.

Anchor ladder exercises in carrying unconscious persons out of upper story windows.

2nd Raise thirty-foot portable ladder to third story window of building.

Ascend with hook ladder, place to roof, ascend and descend same.

3rd The proper way to carry a section of hose.

### **TUESDAY 1:30 P. M.**

4th Ladder Exercises.

1st. Aerial extension to roof of building.

2nd Ascend and descend with various tools.

## **KEEP MATCHES OUT OF REACH OF SMALL CHILDREN.**

One of the most common causes of fires in which dwellings and out buildings are the chief sufferers is children playing with matches. Scarcely a week passes that the Fire Marshal does not receive several reports of fires started in this way and the record furnished by St. Paul, Minneapolis and Duluth for a part of August is not out of the ordinary.

In Minneapolis four fires in as many days and all due to children playing with matches were reported. In St. Paul two were credited to this same cause and in Duluth a like number. The loss fortunately was small, less than \$3,000 being reported, but it was not the fault of the offending youngsters that the amount was not greater. In this connection, it might be added that many of these fires should be charged to the parents and not to the children for the

3rd Place hose roller.  
4th Applying the proper hitches to a ladder to hoist to a roof.

5th Portable Ladder Exercises, consisting of removing of all ladders from trucks.

1st Lifting and carrying to position from wall as for service.

2nd Roll ladders on wall.

3rd Straighten ladders on wall.

4th Ascend ladders.

5th Protect oneself on ladder.

6th Place oneself on ladder for lifting hose-line.

### **WEDNESDAY 9:00 A. M.**

1st Continuance of Ladder Exercises.

7th Apply the proper hitches to twenty-two, twenty-five and thirty-foot portable ladders and hoist to roof over hose-roller.

8th Apply the following tools and hoist to roof over hose-roller; battering ram, claw tool, fire axe, maul, wall pick, ceiling-hook.

9th Apply hitches to ladder and tools, and lower to ground, using hose-roller.

Replace on the truck.

Place truck in position.

Raise main and extension ladder to roof.

10th Company exercises in ascending and descending lower, main and extension ladder.

11th Carrying a length of hose up a thirty-five foot ladder to third story window.

### **WEDNESDAY 1:30 P. M.**

Ladder Exercises, Continued.

12th Instructions on how to handle a section of hose on the street, lash a section of hose and pipe to a ladder to make a cellar nozzle.

parents have not exercised the proper precaution in keeping matches out of reach of the child or they have not warned them of the dangers of playing with matches.

Where do you keep your matches? Are they out of the reach of little children as they always should be?

Wealth untold and the thanks of a long suffering people awaits the man who will invent a self-extinguishing cigarette. One of the Turkish variety carelessly discarded by a smoker furnished Minneapolis with a \$1,000 fire the other day.

### **NOTICE**

**THE FIRE MARSHAL'S OFFICE IS NOW LOCATED IN ROOMS 329, 330 AND 331, STATE CAPITOL.**

13th The lashing of two ladders together and raise same for service.

14th Place the proper hitches to ladder to ascend to roof of upper story.

15th Lash a person to a ladder or board, and lower from the second or third story window, using two ropes.

Use of cutting apparatus for steel shutters and doors.

### **THURSDAY.**

Fire Prevention Congress at St. Paul Hotel.

### **FRIDAY 9:00 A. M.**

1st First Aid Exercises.

1st Splinting of fractures.

2nd Placing a broken arm at rest.

3rd Resuscitation Sylvester & Shaeffer Methods).

2nd Demonstration and Instructions in the Use of Gas Masks.

3rd Instructions in the Use of Life Nets and Protection to Men who are Compelled to Jump.

### **FRIDAY 1:30 P. M.**

General Review of all Instructions.

### **SATURDAY 9:00 A. M.**

A Lecture on Rescue Work, taking up the subjects of resuscitation; life nets; fractures; suffocation; how to combat ammonia, acids, and chemical fumes; ladders, trucks and scaling ladders.

Duties of the firemen on fire grounds.

Ventilation; dangers to be avoided by firemen.

Fire, its causes, extinguishment and preservation of property.

Unmanageable fires.

How to cut floors.

Theatre and Guard Details.

## **NEW FIRE HAZARD.**

Milk has never been regarded as a fire hazard, but the Minnesota Fire Marshal's office has been compelled to record one instance where the lacteal fluid was a contributing agent. In this instance the milk was of the powdered variety.

In Anoka County, according to a report made by the Chief of the Anoka fire department, powdered milk allowed to accumulate around and against a furnace pipe caught fire and did damage to the extent of \$150. The concern in question reduces the liquid article to a powdered form and since learning the inflammable nature has provided precaution against a repetition.

Mice and matches caused a \$1,300 loss in Crow Wing County. A bureau drawer in which the matches were kept was the contributing cause.

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## STATE OF MINNESOTA

# FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 4

Saint Paul

October 1, 1919

### State of Minnesota EXECUTIVE DEPARTMENT

## Proclamation

The larger portion of the annual loss by fire is due to preventable causes. The exercise of reasonable precaution would save the lives of thousands of our citizens and reduce to a large extent the yearly fire losses, which exceed two hundred fifty million dollars in the United States. Minnesota has its share of such preventable waste and should do its part in preventing this terrible destruction of life and property.

NOW THEREFORE, I, J. A. A. Burnquist, Governor of Minnesota, do hereby designate

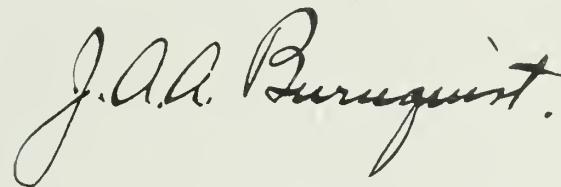
OCTOBER 9, 1919

as

## FIRE PREVENTION DAY

and request the holding of fire drills in schools, factories and workshops, wherever needed, and urge the press, public officials and all of our people to give special consideration on said day to the awakening of a sense of individual responsibility for fires and to a study and discussion of the best methods of eliminating their causes.

IN WITNESS WHEREOF, I have hereto caused the Great Seal of Minnesota to be affixed and have hereunto set my hand, at the Capitol, in the City of Saint Paul, this first day of October, 1919.



Governor.

Attest:



Julius A. Schwall,  
Secretary of State

## PROCEEDINGS OF STATE FIRE COLLEGE

**Held at the Armory, St. Paul, September 22 to 26, under the Direction of the State Fire Marshal.**

**Starting with this issue a series of articles will be published giving a full account of the Fire College.**

### **OPENING SESSION**

**First Lecture delivered by Leon L. Wolf, Instructor of Fire College, on "Modern Fire Fighting and Rescue Work."**

Fire is one of the most necessary and also one of the most dangerous and destructive of the elements. When it has become dangerous and destructive to life or property the firemen are called upon. There is an old saying among firemen that "No two fires are alike," and that "Every fire must be fought differently," and that "No amount of book instruction will make a good fireman; he must be practical and have practical experience." There is a good deal of truth in this, yet there are many things that may be learned from these lessons that it would otherwise take years of hard work to become familiar with and which will make a fireman's life all the easier for knowing.

#### **FIRST LESSON.**

##### **Fire, Its Causes and Origin.**

Fire is caused by intent, carelessness, accident or spontaneous combustion, and may be classed as slow and quick burning. By intent is meant incendiarism or arson in all its degrees. By carelessness is meant using naphtha near an open flame, careless use of matches, oil lamps, oil stoves, candles, unprotected gas brackets and a thousand other ways. By accident is meant fires caused from defective flues, electric wires, gas leaks or similar occurrences. By spontaneous combustion is meant fires caused by self-ignition, such as from oil-soaked rags, paper or cotton waste locked or confined in closets or other close places, vegetable oils and chemical combustion. Dust, cotton, hay and other vegetable fibres, corn and other grains, when packed or in heaps or confined and allowed to become wet or damp will cause spontaneous combustion.

Fire in buildings of various construction, locations and conditions must be fought according to the circumstances of each case and no set rules can be made as to the placing of the hose lines or companies.

In buildings having a large inside area without partitions such as the-

atres, churches, halls, drygoods houses, factories, etc., fire is drawn upward quickly and spreads rapidly. The same occurs when fire is near or on the line of an open stairway shaft, or in large open rooms, halls, corridors, or cellars, especially when they are in high buildings.

Ordinarily, material when on fire and closed in a small room or space will not burn with the same rapidity as when in a large room or space. The reason for this is that material on fire will not burn without air; the larger the air space the better it will burn and the quicker it burns the greater the draught it will create.

A building may be compared to a large stove. When a new fire is made in a stove and the draught door at the bottom and the damper of the smoke pipe opened the fire will go roaring up the pipe and flue; it will act the same in a building under similar circumstances.

#### **SECOND LESSON.**

##### **A Few Important Don'ts.**

The actual duty of firemen is to prevent and extinguish fires with the least possible damage to life, limb and property.

Firemen, in their eagerness to extinguish fires are sometimes negligent in their duty relative to property, and valuable property has been lost or destroyed by carelessness in the extinguishment of fires.

Avoid putting water on property or goods that are not on fire unless the same are in actual danger.

Do not open a pipe or nozzle until fire is seen and not on smoke. This is not intended to mean in cases where heat, gases or fumes of ammonia or acids are accumulating which could be driven back with a stream and the seat of the fire reached, or where a life is in danger.

Do not open a pipe or nozzle full force when a small stream would extinguish the fire.

Do not remove the top of the nozzle unless it is necessary.

Do not put more water on a fire than is necessary to extinguish it.

Do not upset with a stream materials that are not on fire or trample on them while working at fires, but place them carefully to one side.

Do not pull down ceilings or burnt material on top of goods that are not on fire. When there are large quantities of goods which cannot be removed readily the Fire Insurance Patrolmen should be allowed to spread their covers over the same before a ceiling or other material is pulled down on top of them or before

water is used, that is, whenever it is possible to do so without danger of the fire extending.

Do not remove anything that appears in any manner suspicious of incendiarism, or that would be liable to cause fire if moved, until every precaution is taken and the officer in charge or the proper authorities notified.

Do not throw clothing or articles out of a building unless it is necessary to do so for safety, or to extinguish or prevent the spread of the fire, or unless specially directed to do so by the officer in charge at the fire. All articles of value are collected by the Fire Insurance Patrolmen at or after fires, and when they are thrown out of a window it gives them unnecessary work collecting the same.

The Fire Insurance Patrolmen should be given assistance in saving property at fires and care should be taken by firemen not to injure their covers by jamming the points of hooks or the blades of axes into them or in any other manner.

#### **THIRD LESSON.**

##### **Two Branches of Fire Duty.**

A fireman's duty is divided into two branches, both working harmoniously together; they are known as Engine or Hose or Truck duty.

A good officer or fireman will thoroughly familiarize himself with both branches of the service and see that all apparatus, horses, harness, hose, ladders, tools, and other implements intrusted to his care are always in good order and ready for immediate use. He should learn how to use them and also familiarize himself with all apparatus of the department.

The first duty of firemen at fires is to obey orders from all superiors, to work together harmoniously, quickly and coolly, using common sense and discretion at all times and not wander around or become separated from their companies when working at fires.

Officers and firemen when at fires should work together and avoid as much as possible shouting and confusion of orders and answers.

The first duty of an Engine or Hose Company first to arrive at a fire is to get a stream of water on the fire if a stream is required. If the fire is endangering the life of any person or persons the line pipe or nozzle should not be left or stretching in the line stopped by the members of a company in an effort to rescue the endangered person or persons as very often by getting a stream of

water on the fire greatly lessens or entirely removes the danger of the person or persons.

If the person or persons are in great danger or about to jump from upper windows, men who can be spared from the line and any citizens present should be utilized to effect their rescue by holding the jumping net or by the use of scaling or other ladders or in such manner as may be required, but under no circumstances should a line be left entirely alone or the stretching in of the same stopped.

Horse blankets can be used for jumping nets in extreme cases or where the regular jumping nets are not at hand or sufficient or the distance not too great. The first Engine or Hose Company to arrive at a fire should always connect the engine or hose to the hydrant or take suction as the case may be and stretch the hose line to the building whether the fire can be seen or not, and they should not take any person's word for it that the fire is out unless it be from a member of the Fire Department.

Drivers, when taking a hydrant, should not pass the fire to take one on the opposite side unless quicker time can be made by so doing. They should try to take the hydrant on the side by which they are proceeding and stretch the line from there to the fire.

When stretching in, hose lines should be laid as near the curb as possible and on the side of the street or avenue on which the engine or hydrant is located so that other apparatus following will not run over the hose. The hose should also be allowed to run off the wagon and not be pulled off in folds, so as to have no surplus hose lying in the street.

Drivers should avoid running over hose at all times where it is possible to do so.

The next duty after stretching in a line of hose is to take off sufficient number of lengths of hose to reach the fire and allow enough to spare in case the fire extends. This requires judgment and experience and it is always better to have an extra length than not enough as a few minutes delay sometimes causes a loss of thousands of dollars worth of property.

Engine or Hose Companies arriving at a fire after the first Company should first report to the officer in charge at the fire before stretching in their lines, as the officer in charge may require their lines at a certain place.

Engine or Hose Companies equipped with both three and two and a half inch hose should on their arrival at second or greater alarms of fire, when ordered to stretch in, stretch to the building on fire with the three inch hose and if necessary to enter the building or for any other purpose fill out with the two and a half inch hose unless otherwise directed.

After a company has stretched in their lines and the nozzle or pipe has been put on and the water started, the kinks should be immediately taken out of the line as they tend to reduce the pressure at the nozzle and are also liable to burst the hose.

When moving or lightening up on a line of hose whether it is charged with water or not, it should be caught hold of near the couplings and if necessary a man placed at the center of each length or every twenty-five feet; this prevents the lugs on the couplings from catching on anything and makes it easier to move the line.

#### FOURTH LESSON.

##### Roof Lines.

When a Company has been ordered to stretch a line of hose to the roof of a building in which there are no standpipes or where the standpipes have already been taken by other Companies, the line should be stretched on the outside of the building unless specially directed to do otherwise. The object of this is, in case the line should burst when it becomes charged it will not do any damage by water to the contents of the building; whereas, if it was stretched through the interior of the building and burst it would be liable to do considerable damage.

The manner of getting a roof line to work when there are no standpipes in the building is as follows:

After a Company have stretched their line to the building and taken off sufficient hose to reach the roof they should allow at least one length free and clear on the roof in case it may be found necessary to enter the building, or another building from the roof.

The Company should then (with the exception of one man) go to the roof; they should take with them a roof rope, hose roller, axe, and the pipe or nozzle; when they reach the roof the rope should be lowered to the firemen below, who should tie on the line with a half hitch knot. The Company on the roof should then hoist the line and as much surplus hose as they can get; fasten it with one end of the roof rope (using rolling hitch) below a coupling if possible and the other part of the rope secure to a chimney or other secure place.

An open pipe is generally used on a roof line, but controlling nozzles should be substituted when it is found necessary to go inside a building where high pressure is not required.

A roof line, or a line of hose stretched perpendicularly to any great height is generally twisted when stretched, and if these twists are not taken out and the line straightened or the couplings tightened the line will be liable to unscrew at the couplings when it becomes charged with water.

When there are two or more lengths of hose in a line which has been stretched on the outside of a

building or elsewhere in a perpendicular position, each separate length should be tied and supported with a rope below the couplings so as to take the weight of the charged line off the couplings and to prevent them from pulling out.

When a Company is working with a roof line on a roof, especially in freezing weather, and the roof is liable to become slippery, the pipe or nozzle should be tied to a chimney, iron shutter, or other secure and convenient place so as to prevent the back pressure from carrying the pipe-men off the slippery roof. If it is not possible to tie the pipe in such cases the pipe holder or pipe stick should be used.

When fighting fire on the roof or upper floors of any building or at any high place, Companies should always have with them a roof rope, hose roller and axe; the roof rope and hose roller to pull up hose from outside if required and the axe to open doors, partitions, etc. The rope can also be used as an escape in case the Company is cut off from below.

When a rope is used as an escape from a height by sliding down it, it should be securely fastened to the top first, and the person sliding down should use a cloth, towel, or part of coat, or similar material between the hands to prevent burning the hands by friction; the legs should be twined about the rope to prevent descending too rapidly.

##### WHEN HOSE BURSTS.

When hose bursts in a building or in the street a hose jacket should be immediately put on over the break and if it is not sufficient to stop the leak the line should be immediately shut off at the engine or hydrant, the burst length taken out, and a good length substituted.

When hose stretched to the roof or upper floor of any building bursts near the roof or an upper floor window, it should be pulled up to the roof or upper floor window, and the hose jacket put on the burst there. If the hose jacket does not stop the leak sufficiently the line should be shut off at the engine or hydrant, the line broken in the street and another line put in there, and the broken length pulled up on the roof or upper floor and taken out. If an extra length is not required in such cases the line should be pulled up to the roof or upper window and the burst length taken out without breaking the line in the street.

When hose stretched on the outside of a building bursts near the street it should be lowered to the street and the hose jacket put on the burst there, or a good length substituted, as the case may require.

When hose is stretched across any railway tracks, especially in dark and unlighted streets or avenues, or at night, it should be guarded by a fireman with a red light, to prevent the cars or trains from running over and cutting the hose in two. When a line of hose has been cut in this manner another length should be im-

## FIRE MARSHAL BULLETIN

mediately substituted or another line stretched, as the case may require.

### LADDER LINES.

When stretching a line of hose up a ladder or fire escape the fireman on the pipe should always keep a firm hold of the nozzle and the ladder or fire escape, as the sudden charging of the line is liable to put the pipe or nozzle out of his hands or throw him off the ladder or fire escape.

He should also always have with him a pipe strap or short piece of rope with which to fasten the pipe or nozzle to the ladder, or inside the window.

High pressure on a ladder will sometimes lift the ladder out from the building and cause it to fall; this should always be guarded against by fastening the ladder and also notifying the engineer that the company is working on a ladder.

When stretching a line through a window from a ladder the pipe or nozzle should be passed, either over the top or along the side of the ladder; the reason for this is, if the ladder is required at another window or for any other purpose, it can be moved readily without backing out the line.

When a Company is directing a stream through a window or door from a ladder, fire escape or other place, the pipe or nozzle can be securely fastened and the pipeman greatly relieved from the force of the back pressure or weight of the charged line, by fastening one end of a short piece of rope to the center of a six-foot hook and laying it inside the window or doorway across the frame, and the other end tied securely to the pipe or nozzle.

Ladders can be fastened and secured from falling in the same manner by tying the rope to the hook and a rung of the ladder.

### BACKING OUT AND PICKING UP.

When an Engine Company has been ordered to pick up, or back down and out from the upper part of a building, the engineer should be notified, and after he has shut off on the line it should be disconnected at the first coupling outside of the building, so as to allow the water therein to run off in the street where it will do no damage; then the line should be backed out with the pipe or nozzle last.

When a Company has been ordered to back out without the line they should do so immediately and without question for an officer in charge of a fire can often see more danger than a Company or Companies working within the building.

### CHARITY VS. FOOLISHNESS.

A woman took gasoline from her machine to help out an autoist who had run out of gas. That was charity; but she lit a match to see how much gasoline was coming, and the

usual thing happened. That was foolishness. The woman was badly burned.

### AN UNQUALIFIED SUCCESS.

An unqualified success best describes the Fire Prevention Congress and Fire College, held the week of Sept. 22, in St. Paul. These two institutions had a daily attendance of from two to three hundred intensely interested students and were so successful that it was voted to make them an annual event.

The Fire College, under the direction of the State Fire Marshals' department and with Leon L. Wolf, of Cincinnati, O., as its chief instructor, opened with an enrollment of over one hundred firemen and safety officials from all over the state. To this number there were daily additions until at the close over 200 students were following with interest and often amusement the apparently difficult yet simple feats of life saving and fire suppression as demonstrated by the instructor, Mr. Wolf. The college, it might be said, was the first ever given under state auspices in this country and will undoubtedly be followed by similar institutions of learning elsewhere.

Fully equipped with the latest devices for the saving of human lives trapped in burning buildings, Prof. Wolf scaled lofty heights, safely conducted the students through imaginary smoke filled passages, penetrated steel barred rooms with the aid of the acetylene torch, demonstrated the proper handling of hose on roofs, the carrying of tools and equipment to dizzy heights and the proper handling of injured comrades and persons. Daily fire drills and exercises for the better physical development of firemen were also a feature. The college continued through four days and every minute of the course was a revelation.

The Fire Prevention Congress, which featured the fourth day of the course and which was held at the St. Paul Hotel, was responsible for the most representative gathering of city and town officials perhaps ever held in the state. Fire prevention and the elimination of hazards was the theme and the programme was followed with interest. Louis L. Law, president of the Minnesota Conservation and Fire Prevention Association, presided. In the absence of Gov. Burnquist, who was unavoidably detained by official business, the address of welcome was delivered by John B. Sanborn, State Insurance Commissioner.

"Fire Prevention" was the topic assigned T. Alfred Fleming, Fire Marshal of Ohio, and his treatment of the subject was a most exhaustive and entertaining one. Carelessness, he declared, was invariably the basis of practically every fire and he hoped to see the day when those responsible would be made to face the consequences of their act. "Modern Fire Fighting and the Evolution of Fire and Water Losses of Today and

Yesterday," was graphically described by Leon L. Wolf, physical director of the Cincinnati, O., fire department. "Fire Apparatus for Towns and Villages" was the subject of a talk given by E. R. Townsend, manager, Western Engineering Bureau. The programme was concluded with an interesting round table discussion led by James F. Joseph, chairman Chicago Advisory Committee of the National Board of Fire Underwriters.

Nearly 300 city and town officials were in attendance and entered enthusiastically into the subjects under discussion. It was voted to make both the congress and the college an annual event and to enlarge the scope of its work. Double the attendance was promised for next year.

No person will permit a neighbor to keep a savage or dangerous bulldog on the premises. By the same token, in the event of contagious or infectious disease, a strict quarantine is maintained and provided for by law. Why, then, should that same neighbor permit a condition to exist on his property which not only endangers your possessions, but the very lives of his loved ones? When this phase of the situation is placed squarely up to a property owner where dangerous fire hazards exist, nine times out of ten he heartily agrees and becomes a fire prevention enthusiast whose sincerity will not wear out—John S. Horan, Fire Marshal of West Virginia.

### HOW TO REMOVE SOOT.

Large numbers of shingle roof and defective flue fires are being reported, due to the increasing use of soft coal. The accumulations of soot on heating surfaces reduce the value of the fuel, and frequently clog the flues and start fires. The following plan for removal of soot is suggested:

The fire is put into good condition with a substantial body of hot fuel. Common salt, thoroughly dried, is then thrown or sprinkled onto the incandescent fuel bed in a quantity depending entirely on the size of the furnace. In the case of a house heating furnace, one pound at a time is ample, in the case of a large power plant boiler, four or five scoops full may be required. The dampers are kept open so as to maintain the furnace temperature and the salt is allowed to remain until the fumes have entirely disappeared.

Immediately upon charging the salt, the furnace becomes filled with dense white fumes which may require as much as half an hour to entirely disappear. If results are not secured on the first application, it should be repeated as many times as necessary.

Once the heating surface is thoroughly cleaned a small application every few days is usually sufficient to keep it so.

STATE OF MINNESOTA

# FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330. State Capitol

No. 5

Saint Paul

October 15, 1919

## BEWARE OF ME

I am more powerful than the combined armies of the world.

I have destroyed more men than all the wars of the world.

I am more deadly than bullets, and I have wrecked more homes  
than the mightiest of siege guns.

I steal in the United States alone over \$300,000,000 each year.

I spare no one, and find my victims among the rich and poor  
alike; the young and old; the strong and the weak; widows  
and orphans know me.

I loom up to such proportions that I cast my shadow over every  
field of labor from the turning of the grindstone to the mov-  
ing of every train.

I massacre thousands upon thousands of wage-earners in a year.

I lurk in unseen places, and do most of my work silently. You  
are warned against me, but you heed not.

I am relentless. I am everywhere; in the home, on the street,  
in the factory, at railroad crossings and on the sea.

I bring sickness, degradation and death, and yet few seek to  
avoid me

I destroy, crush or maim; I give nothing, but take all.

I am your worst enemy.

## I AM CARELESSNESS

CARELESSNESS; Causes 65 per cent of all accidents  
Causes 75 per cent of all fires

## SAFETY FIRST

Better be Careful than Crippled.

# MINNESOTA STATE FIRE COLLEGE

THE SECOND OF A SERIES OF ARTICLES GIVING AN ACCOUNT OF THE FIRE COLLEGE HELD IN ST. PAUL SEPTEMBER 22 TO 26 UNDER THE DIRECTION OF THE STATE FIRE MARSHAL.

THE FIRST ARTICLE APPEARED IN BULLETIN NO. 4.

**"FIRE DEPARTMENT  
RESCUE WORK"**  
By LEON L. WOLF  
Instructor

## LESSON I.

THIS series of articles on rescue work and first aid will be divided in twelve parts. Each part will treat on the most important features in rescue work and first aid as taught in the Philadelphia and the Cincinnati fire schools. Schools of this character have been started in the New York, Philadelphia and Cincinnati fire departments and in several other departments. They have the enthusiastic support of the chiefs and safety directors. The feats in rescue work in the following articles are not merely feats of theory, but have been worked out on the fire ground and are used every day in the largest cities, where the call upon the firemen to save and protect life is much greater owing to the crowded conditions of the many tenement houses and the great number of high loft buildings used for manufacturing purposes.

One of the most essential features for a fireman to bear in mind is that it is absolutely necessary for him to be physically fit so that he may efficiently perform the duties that he is called upon to perform on the fire ground, and the most important feature of all is that he should have good wind, owing to the fact that it is necessary for the firemen to work at top speed from the time the first bell hits till the fire is out.

### Keeping Physically Fit.

Fire is one of the most dangerous and destructive elements, and no two fires are alike. No two fires are fought in the same way and no amount of book instruction will make a good fireman. He must go through the actual experience and must be trained to the minute, and the idea of a fire school for the training of the men both for their duties in the line of fire fighting and rescue work has been recognized by the leading fire authorities throughout the country as the best method for preparing a man for these duties.

The setting up exercises as used by the United States government should be indulged in every morning for at least one-half hour. The manual on these exercises can be secured at any bookstore, but the following illustrations will give some idea of some of the exercises practiced at the fire schools. These exercises improve the wind, harden the muscles and re-

duce all superfluous flesh. The value of these exercises will be appreciated by the men when they are called upon to go up and over a ladder, as the average fireman is practically exhausted by the time he reaches the top of a forty or fifty-foot ladder with an ordinary section of hose.

If it is impossible to obtain a manual on the setting up exercises, I would advise the men to use the ordinary calisthenics that were taught to them and are taught today in our public schools, with the addition of the three exercises herein illustrated. The first exercise consists of extending the arms above the head straight up and then bending over and touching the toes without bending the knees. This should be done at least fifteen times at each exer-

described exercises, as I know of two specific instances in the Cincinnati Fire Department of two firemen who were inclined to be corpulent, one of them reducing ten pounds and the other fourteen pounds in a very short time, and both men told the writer that they had never felt better or more fit in their lives than after going through these exercises.



Exercise 3

### Athletes Needed

The general routine of a fireman's life does not tend to make him physically strong unless he makes some special effort to accomplish this end. He is compelled to sit around his quarters sometimes for days at a time without answering an alarm; at other times he will be called on probably five or six times a day, to get out in a hurry, work hard and fast for an hour or two—sometimes for twenty-four hours—and it is just such times as this that his physical training will prove its worth. It is just as necessary for a fireman to keep in training for his work as it the wrestler, the prize fighter or any athlete, for the scaling of a four or five-story building with a scaling ladder or a pompier ladder or the carrying of a line of hose up a thirty-five or forty-foot ladder or the carrying of tools such as used in fire fighting to the top of a sixty-five or seventy-five foot aerial extension, or the carrying of a man, woman or child down a ladder, is an athletic feat, and none of these feats can be accomplished without the proper training.

The average fireman weighing about one hundred and sixty-five pounds, if asked to go up a twenty-eight foot ladder to a second floor and pick up the body of a prostrate man laying on the floor and bring him down the ladder without any assistance whatever, would be absolutely at a loss how to begin; whereas, it has been demonstrated at the Cincinnati Fire School that, with one week of training, any member of the class was able to accomplish this feat in from thirty-two to forty-five seconds, and seconds count in rescue work.



Exercise 1

cise. At first, it will appear rather hard to touch the toes without bending the knees, but after two or three days' exercise in conjunction with the other exercises it becomes quite easy. The No. 2 exercise consists of placing the hands on the hips, elbows thrown back, and come to a sitting position, resting on the toes when in the sitting position, then coming back to a standing position, and repeating at least fifteen times. The third exercise: Arms out perfectly straight from the shoulders; come to a sitting position the same as in Exercise 2; then bring the arms to the front, bringing the palms of the hands together; then back again to the original position, for at least fifteen times, remaining all the time in the sitting position. There is no question as to the value of the above

## Fire Department Rescue Work

By Leon L. Wolf, Instructor

### Lesson 11

In my last article on Rescue Work, I took up the subject "Making the Man Physically Fit," which consisted of the various calisthenics and the setting-up exercises. This article will treat on the first two rescue exercises, known as "The Fireman's Lift" and the "Dead Man's Lift."

Both of these exercises are very important and should be practiced daily in order to become proficient in their execution. The fireman's lift is considered the easiest and most practical way of removing a conscious person from a building, and by this method it is very simple for the smallest and lightest man in the department to carry a man weighing 250 pounds up or down three or four flights of stairs, and have the free use of one arm to open and close doors, chop out a lock, open a window or pick up a child with the free arm and carry both bodies from the building at the same time. The following illustrations have been arranged to show the four positions of the above exercise: To practice this exercise start the same as illustration No. 1, grabbing the person by the wrist with the arm raised above your head, then pass under the arm, at the same time placing your other arm between his legs and pulling them across your shoulder and placing the wrist that you have grabbed in the hand that has been passed between the subject's legs, as in illustration No. 2. Have the body as high on your shoulders as you possibly can, as this is merely a question of equilibrium and it is necessary to have the body as equally balanced across the shoulders as possible. Now straighten up as in illustration No. 3 and if there is a child to be removed with the grown person, grab the child with the free arm.

This is a very practical exercise, and is in use by the United States army in removing wounded from the battlefield. It is also very practical from the standpoint that the body cannot slip off the back or off the shoulders, and should the party be hysterical or of unsound mind, they are unable to do any injury or interfere with the carrier.

The next exercise, or "Dead Man's Lift," is very useful and the only practical way of removing an unconscious body from a building, where it is necessary to use a ladder.

The first illustration shows the first position, roll the body on its back, tie the two hands together with a handkerchief or rope with an ordinary square knot; second position, lay flat on the body, placing the arms of the unconscious body



Fireman's Lift No. 1



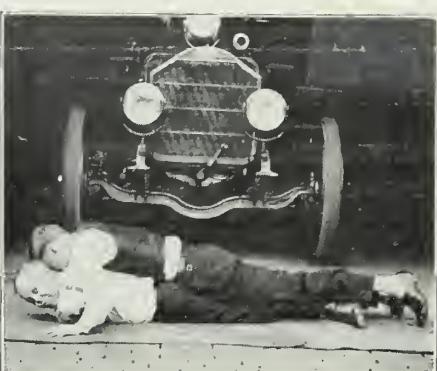
Fireman's Lift No. 2



Fireman's Lift No. 3



Dead Man's Lift No. 1



Dead Man's Lift No. 2



Dead Man's Lift No. 3



Dead Man's Lift No. 4

January 26, 1911.

## FIRE MARSHAL BULLETIN

over your head. In the meantime endeavor to keep as much of your weight off the unconscious form as you can, as shown in illustration No. 2.

Then roll over with the unconscious form on top of you, as in illustration No. 3. Then arise to your feet, as in illustration No. 4. This exercise, if practiced five or six times, becomes very simple, and there is no trouble raising the heaviest man or woman from the floor. The body cannot slip away from you, and you have the free use of both arms to get out the window to get on your ladder. In descending the ladder it is a good idea to bow the back the least bit, as the weight will not be all depending upon the neck hold for support, but part of the weight will be carried on the hips.

The above described exercises are all very necessary in rescue work, and are worthy of the consideration and careful study of every fireman.

### PREVENTING WINTER FIRES.

**STOVES**—Place a metal stoveboard on the wood floor under the stove, and extending at least twelve inches in front of the ashpit door. Protect all walls and partitions within two feet of any stove with a metal shield, leaving an air space between the shield and the wall. Leave no kindling or other wood in the oven over night. Do not hang clothes too near the stove or stovepipe.

**PIPPES**—See that the lengths of stovepipe are well fitted together, free from rust holes and parted seams, wired firmly and fitted perfectly into the chimney. Stovepipes passing through partitions, walls, floors, attics and roofs are dangerous at best. Where these must pass through partitions, walls or floors, always use a large, ventilated double thimble. You cannot observe the stovepipes in the attic. They may come apart or rust. Fluff and spider webs are likely to gather on and around them, to be set on fire when you least expect it.

**CHIMNEYS** Chimneys should be built from the ground up and never rest on wood supports. The settling of the wood-work will cause cracks in the chimney. Nor should the chimney walls be used to support joists or other wood-work. Soft brick and poor mortar are often responsible for defects in the chimney. Use a good quality of brick and cement mortar, up through the first floor and above the roof. Chimney walls should be at least eight inches thick, the flue of ample size and lined with fire clay or terra cotta. Never stuff up flue holes with rags or paper, nor cover them with cheesecloth, or anything but a metal stop. Chimneys should be cleaned frequently.

**FURNACES**—Protect all wood work above and around boilers, if within three feet, with a metal shield, also all wood-work near furnace pipes. It is best to rivet the lengths

of pipe together to prevent disjointing. The pipe should fit perfectly into the chimney. Examine the pipe frequently for rust holes or other defects. Keep them free from rust, fluff and spider webs, which are easily ignited.

**DEFECTS**—Defective stoves, boilers, furnaces, pipes, and chimneys should be promptly repaired or replaced.

**OVERHEATING**—Beware of overheating stoves, boilers, furnaces and pipes.

**ASHES**—These should never be placed into wooden receptacles or bins, on wood floors or against wood partitions, walls, fences, buildings, or any other wood-work. Use metal receptacles only, and on the outside, dump ashes away from all buildings.

Sawdust left by workmen near a smoke outlet in the attic of a Big Stone County Creamery was responsible for the complete destruction of the building and its contents. It was only after the fire that the presence of the inflammable material was noticed.

### GASOLINE HINTS.

Unless this stuff is indispensable to your business or household, avoid its use. One pint of gasoline will impregnate 200 cubic feet of air, and make it explosive. When used at all, it should be handled by daylight only. Keep it outside of the building in an air-tight can, painted red and marked "Gasoline." Never keep in glassware or uncorked receptacle.

Two fires within a week, each due to an overheated electric iron were recorded recently. The first badly damaged the public library at Bemidji and the second put a small tailor shop in Minneapolis out of commission. In each case the iron with the current turned on was left unattended.

Carelessness and a hot electric iron recently damaged the Bemidji Public Library to the extent of several hundred dollars. The operator left without turning off the current and the heat gaining in intensity soon reduced the pine table on which it was setting to ashes.

### FIRE LOSSES FOR MONTH OF SEPTEMBER, 1919.

	No. of Fires.	Value of Bldgs. and Contents.	Loss on Bldgs. and Contents.	Insurance on Bldgs. and Contents.
St. Paul .....	26	\$230,610	\$ 27,055	\$154,700
Minneapolis .....	43	981,025	140,895	768,217
Duluth .....	15	255,900	15,574	158,350
Outside 3 Cities.....	68	412,238	117,622	249,150
TOTALS .....	152	\$1,879,773	\$301,146	\$1,330,417

### No. of Inv. 8.

### SEPTEMBER, 1918.

	No. of Fires.	Value of Bldgs. and Contents.	Loss on Bldgs. and Contents.	Insurance on Bldgs. and Contents.
St. Paul.....	40	\$884,475	\$28,835	\$809,650
Minneapolis .....	51	5,836,900	56,630	4,732,850
Duluth .....	14	136,500	36,625	71,350
Outside 3 Cities.....	98	727,092	194,293	565,021
TOTALS .....	203	\$7,584,967	\$316,383	\$6,178,871

### FIRE LOSSES FOR MONTH OF AUGUST, 1919.

	No. of Fires.	Value of Bldgs. and Contents.	Loss on Bldgs. and Contents.	Insurance on Bldgs. and Contents.
St. Paul.....	22	\$1,060,710	\$15,880	\$772,965
Minneapolis .....	49	2,657,250	56,615	1,809,850
Duluth .....	10	559,900	16,555	521,300
Outside 3 Cities.....	79	581,825	274,877	375,123
TOTAL .....	160	\$4,859,685	\$363,927	\$3,479,238

### No. of Inv. 3.

### FIRE LOSSES FOR MONTH OF AUGUST, 1918.

	No. of Fires.	Value of Bldgs. and Contents.	Loss on Bldgs. and Contents.	Insurance on Bldgs. and Contents.
St. Paul .....	25	\$1,103,350	\$19,290	\$916,550
Minneapolis .....	44	2,555,100	38,710	2,050,750
Duluth .....	7	3,376,550	4,450	3,065,000
Outside 3 Cities.....	87	380,033	224,268	178,406
TOTAL .....	163	\$7,415,033	\$286,718	\$6,210,706

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# STATE OF MINNESOTA

# FIRE MARSHAL BULLETIN

GEORGE H. NEETLETON, Fire Marshal

Room 330, State Capitol

No. 6

Saint Paul

November 15, 1919

## "CIVIL WAR TODAY."

In an effort to interest the Young Idea in Fire Prevention the St. Paul Fire Insurance Exchange offered several prizes totaling \$50 to the school children of St. Paul for the best 300 word essay on the subject. The contest was divided into three classes covering various phases of Fire Prevention. A large number of pupils participated in the contest and the work of the judges in selecting from the mass of manuscripts the winners was not an enviable task "Civil War Today" was the title selected by Wesley Scheuneman, 16 years old, 560 Blair street for his essay and it brought him first prize in the group of pupil participants between the ages of 14 and 20. His idea of real Fire prevention is as follows:

Fire is America's greatest enemy—bar none. He is always ready to attack without warning. We must fight back. To admit defeat would be un-American—un-American, according to the standard we have set in the Great War. But we won't admit defeat. We'll fight back and win, but we need your help.

You would make a fine scout if you joined forces with your country in the battle against the hosts of General Fire. Your pay would be the knowledge that you are doing something to help your fellowmen and yourself. Your equipment would consist of one set of brains, in working order. Your duty would be to scout around and locate the long range gun of the enemy and drop bombs of propaganda and education upon it. You'll know this gun when you see it. It's called "Carelessness." The gun "Carelessness" is Fire's main reliance. If we destroy it the battle is won. But don't go into this fight with the idea that it's going to be a snap. It isn't. Crafty General Fire has his gun well camouflaged and if you aren't careful you may get shot yourself.

Sometimes, when his gun destroys a home, he makes you think it was little children who did it, playing with matches. It wasn't, though. It was Fire's gun "Carelessness" ably manned by the parents themselves, that caused the destruction. Old Fire is some strategist, he has us fighting against ourselves. When an oily piece of waste in an overall pocket causes a calamity, science calls it

spontaneous combustion, but General Fire knows his gun has scored a direct hit. Then again, when a man pours kerosene on a fire or a woman leaves an electric iron turned on while she leaves the room, Fire knows his gun is working overtime. To vary the attack he sometimes sends across a few dum-dum bullets. These are cigarette stubs thrown near inflammable material, rubbish scattered carelessly about, campfires left burning, and other small but deadly ammunition. These bullets are fatal if they score a hit. They must be checked before they penetrate to the inner organs of the country. They are even more deadly than Fire's gas attack which consists of the mouthings of people who scoff at organized fire prevention. Yes, Fire has picked troops but ours are better. We are fitting up a "Carefulness" squadron. There won't be any second lieutenants or any other officers, for that matter, in this squadron; so don't hesitate. Join us now. Don't remain exposed in no man's land. Come over on our side and help your country fight the Fire Menace.

## PREVENTION AT BEMIDJI.

A Fire Prevention Meeting of an elaborate character was featured at Bemidji, Oct. 21 last, when a score or more of the members of the Conservation and Fire Prevention Association of Minnesota met in that city and in conjunction with the local authorities gave Bemidji a thorough overhauling. The cleaning up of fire hazards was most complete.

The visiting members of the association, who are deputy fire marshals, in company with local fire department officials made a thorough inspection of all business properties, condemned fire hazards when found, suggested improvements and in other ways impressed the need of eternal vigilance. In the afternoon members of the association addressed the pupils in the public schools and in the evening they met at the Commercial Club where addresses on fire prevention were the feature. Fire prevention films, including those of the recent fire college, were shown.

A similar program will be carried out at Faribault, Nov. 25. Other cities and towns will be visited in order.

## FIRE PREVENTION DAY AT HIBBING.

Fire Prevention Day, generally observed throughout the state this year, had unusual expression at Hibbing where practically the entire village joined in making the day a real prevention occasion. Village officials, merchants, ministers, townspeople and even the schools entered into the spirit of the movement and an elaborate prevention program was carried out.

Charles McIlhargey is chief of the Hibbing fire department and the Fire Prevention program was largely of his making. In addition to interesting the business men of the village, many of whom gave over the day to the thorough cleaning up of their business properties and the correction of fire hazards, the ministry of the village were induced to join in the crusade. By this means the observance of Fire Prevention Day was carried direct to the homes.

The most telling work, however, was done in the schools. Chief McIlhargey supplied those in charge with special literature dealing with fire prevention who in turn distributed the same among the pupils. This literature had to do with the ordinary and every day forms of fire hazards and included a program of exercises which was generally carried out. For the benefit of the children Chief McIlhargey composed the following bit of verse which they were asked to memorize:

Now let's all lend our efforts to  
serve the fire waste;

Let there be no camouflaging from  
the attic to the base.

Every spooky little corner where the  
fire germs abide.

Will be thoroughly renovated, and  
all rubbish put outside.

Let our fight be systematic; let us  
study up and know

All the scientific methods to com-  
bat this subtle foe.

Let's assume responsibility for our di-  
vided part,

The best way to beat a fire. We  
must never let it start.

For the edification of the villagers there was a parade of fire apparatus with drills in all the schools throughout the township. Next year Hibbing will observe October 9th on even a more elaborate scale.

# MINNESOTA STATE FIRE COLLEGE

THE THIRD OF A SERIES OF ARTICLES GIVING AN ACCOUNT OF THE FIRE COLLEGE HELD IN ST. PAUL SEPTEMBER 22 TO 26 UNDER THE DIRECTION OF THE STATE FIRE MARSHAL.

THE FIRST ARTICLE APPEARED IN BULLETIN NO. 4.

## "FIRE DEPARTMENT RESCUE WORK"

By LEON L. WOLF  
Instructor

### LESSON III.

In my last article on Rescue Work I dealt with the two exercises known as the Fireman's lift and the Dead Man's lift.

This article will take up what is known as the Invalid's lift, and is used for removing an invalid or an



Illustration I.

operated person from a burning home or hospital, or where there is a body badly mangled in a railroad or street car accident.

In removing such bodies it is absolutely necessary that the body be held in a horizontal position and that the body be subjected to as little strain as possible. For instance, we will take a patient who has had an abdominal incision. If the body was to be doubled up or stretched in the least, it would cause an internal hemorrhage, which, in nine cases out of ten, would result in death. The following illustration will show how a



Illustration II.

body can be removed without any strain whatsoever, and can be carried upstairs or downstairs, or lowered from a window.

Illustration One shows the body lying on the floor. Feet should be tied together and the hands crossed and tied. Then three men should

kneel beside the body as in Illustration One, one placing his hand under the neck and his other hand under the body. The middle man should place his hands under the hip. The



Illustration III.

third man should place his hand under the legs at the knee and the other hand under the legs at the ankles. The middle man should then count three. At the word three the



Illustration IV.

body should be raised to the knees, as in Illustration Two. The middle man should then count three and the body should be drawn up to the breast. The middle man should then count three and they should rise to their feet as in Illustration Three. The body can then be carried upstairs or downstairs without disturbing the equilibrium of the body whatsoever. Or it can be lashed to a ladder, a table leaf, a shutter or an ironing board and lowered from a window.

The following method of knots and hitches should be used in fastening the body to the ladder as shown in Illustration Four. Bring the line around and a double hitch tie the end, a single hitch below the hips, a double hitch under the arms and the knot brought to the back of the ladder or board upon which the body is lashed.

In this position one man can lower a body from the window as well as a half dozen, by placing the ladder or board on the window sill and gradually pushing it out of the window, feet first. Before doing so he should lay his line out across the room and when the end of the ladder reaches the window sill, bring his rope down tight over the window sill, placing his feet against the washboard, sitting down on his rope and releasing it gradually over the edge of the window sill.

These exercises are very simple, and a short time devoted each day to the practice of these exercises will accomplish wonderful results. This lift method has the endorsement of such prominent surgeons as Dr. Owen, formerly police and fire surgeon in the city of Philadelphia, Dr. De Costa, Philadelphia, and practically every police and fire surgeon in every large city in the United States.

### PROTECTING THE HAY CROP.

In the prairie country of Minnesota hay is one of the most valuable crops raised. This year the crop is unusually abundant and farmers have been compelled to stack the most of it in the open. Fire is its principal menace and as a precautionary measure many farmers have posted warning signs for the benefit of hunters, campers and others.

A fire started by careless parties may quickly destroy thousands of tons of valuable hay which have been put up by farmers. The hay crop this year has been a large one and great quantities of hay are stacked in the eastern part of the state which, if destroyed by fire, would cause an enormous loss to the farmers and result in a shortage of forage for their livestock.

## Poor Chimneys Cause Many Rural Fires; Care Needed in Building New Homes

A summary of the various causes of fire, as given by State fire marshals of different states, shows that fire attributable to chimneys annually amount to from 10 to 26 per cent of the total number, while in winter the percentage has reached as high as 50. This is significant when it is realized that most of these fires result from carelessness and could be avoided by proper attention.

In cities and towns with proper fire protection many fires are arrested without serious loss. It is evident, say specialists of the United States Department of Agriculture, that in rural districts, where there are no organized fire-fighting agencies, and where a fire usually results in a total loss, much could give more attention to the construction of new chimneys as nearly fire-proof as possible.

With the establishment of peace, home building, which during the war was practically at a standstill, probably will receive a considerable stimulus. With the increased volume of work, building will be speeded up to the limit, and the fact that carelessness is bound to creep in should not be forgotten. This should be especially guarded against in fire hazards in chimney construction.

### DANGER IN MANY CHIMNEYS.

It is well known that the ordinary brick-and-mortar chimney as usually constructed is a source of danger. The constant heat from fire in time causes mortar to become dry, so that it falls out of place, leaving holes in the chimney. Such a condition usually goes unnoticed and is a constant source of danger from fire.

In constructing chimneys in buildings made of combustible material, the chimney should be built straight up from the ground and not placed on a bracket, as is often the case, and should extend 2 feet or more above the peak when the chimney is in the center of the roof and 3 feet or more above the surface when on a flat or slanting roof. For proper draft, the minimum-sized opening for the flue should not be less than 64 square inches, while the walls should be at least 8 inches thick. At the base of each flue a clean-out door should be provided, if possible. Whatever the material used in construction, it should be of good quality and laid in cement. Flue holes should never be filled with any inflammable material, but should be covered over in a secure manner with a metal flue stop.

The joists used to support the floors through which the chimney passes should not have their ends supported in the brick, as the chimney may settle, leaving at these points cracks through which fire may creep to the joists; furthermore, no other woodwork should come in contact with the chimney.

### GOOD FLUE LININGS NEEDED.

To obviate the fire hazard in brick chimneys it is suggested that a fire clay or terra cotta flue lining be used in their construction. The lining serves as a fire preventive, and gives a flue of uniform dimensions. The ordinary brick chimney will not do this. With lining the flue presents a smooth surface which leaves no place for soot to gather, thus eliminating to a great extent the possibility of chimney fires. The cost of such a lining for an ordinary two-story residence would be nominal, and the lining should prove a cheap and effective means of fire protection.

It is possible to use fire brick in place of the fire clay or terra-cotta tile, with the same result, but at greater cost. Fire brick are almost universally used in the construction of fireplaces for lining the fireback, sides, throat, and wall of the ash pit.

Where the home is already equipped with the ordinary unlined brick chimney a close inspection should be given at short intervals to insure safety. If any breaks or cracks appear, they should be immediately repaired. It would also be well occasionally to clean the chimney, thus removing soot. This may be done with a wire or rope to which is fastened any object suitable for the purpose. A one-quarter-inch rope and a pair of old automobile tire chains used for this purpose did the work satisfactorily.

### SOME MATCH FIGURES.

One of the most common causes of fires is the careless use of matches. Showing the extensive use of the match a statistician who delights in delving into the unusual has figured that 10,000 matches are scratched in this country every second and he further finds that 95 per cent are struck by smokers lighting pipes, cigars and cigarettes.

This man also says that the lighting of these matches costs \$513,024 every eight-hour working day. He found this out by figuring that it takes 15 seconds to scratch a match and use the light, and that 213,759 men, whose time is worth 30 cents an hour, are holding matches at the same time, thus losing golden minutes at the rate of \$1,068 a minute or \$64,128 an hour.

Boys indulging in their first cigarette gave the Minneapolis fire department a lively run recently. The usual scene of such affairs—a barn—was totally destroyed.

Do you know the telephone number or call of the nearest fire station? Learn it at once.

Every fire is a blow at the nation's resources. Every dollar that goes up in smoke is lost.

### THE CHRISTMAS SEASON.

The approach of the Christmas season is ever one fraught with anxiety and toil for the fire fighters and the coming holidays are no exception to the rule. While last Christmas saw only two fires in Minnesota traceable to the Christmas tree, the possibility of a holocaust due to carelessness is always present and the fears of those concerned will not be allayed until the Yuletide period is over.

The principal Christmas hazard and the one responsible for many frightful deaths and much property loss in the past has been the Christmas tree. Next in line is that of flimsy decorations and the use of the open flame for lighting purposes. The two have always been a combination for everything that is bad and though numerous "Don'ts" have featured the educational work used in their elimination the two still continue to an extent. There is absolutely no excuse for such.

While there is no legal ban on the use of candles for Christmas tree lighting there is a parental obligation involved and it attaches to every father and mother to the extent of seeing that nothing is permitted that will in any way endanger the lives of the kiddies. This means the substitution of electricity if possible for tree lighting purposes and if not procurable either the elimination of all tree lighting or the arrangement of candles and decorations so that fire is practically impossible. Danger can be avoided without detracting in the least from the beauty of the display or the pleasure afforded the children from it.

When the tree has been secured one of the first things to do is to see that it is firmly planted so that children or others in their enthusiasm can not tip it over. Then in the work of decoration only those of a metallic or fireproof character should be used, such precaution even extending to decorations of cotton batting and tissue paper which should never be used for decorating as both are highly inflammable. As stated, electric lights are preferable for decorative lighting effects, but when not procurable the precautions cited should be taken. The snow effect regarded by many as indispensable in connection with a Christmas tree can be better secured by the use of mineral wool. It is also possible to fireproof other inflammable material used, such as bunting and flags at a small cost.

Thorough safety to life and property, however, does not lay entirely in the Christmas tree precautions outlined. Having planted and decorated the tree the next and one important thing is to watch it. A lighted tree with children present and no one in authority close by is a temptation and it should not be left unguarded for a moment. Watch the household match supply on all occasions. Allow no one to touch the tree when it is lighted and in the

# FIRE MARSHAL BULLETIN

distribution of presents permit only some elder member of the family to detach the same. Having carefully observed the precautions named and such others as may occur in the minds of careful people prepare to put out a possible fire by having a fire extinguisher of some kind in easy reach.

Last year only two fires were credited to the careless handling of Christmas trees. If proper care is observed throughout the state this year there will be no such fires reported. Make it a happy Christmas.

## FIRE PREVENTION MOVIE FOR THE HOUSEWIFE.

Mrs. Julia Heath, founder and president of the National Housewives League is a firm believer in the use of the movies for the education of her sex in the matter of Fire Prevention. The average household, she says is the ground for propaganda in this respect and the idea of carrying prevention direct to the homes pleases her immensely. What Mrs. Heath would have shown in a Prevention film is entertainingly expressed by her in Fire and Water Engineering.

"I should like to see the films of the "do," rather than the "don't" variety. A match container shown where children can not reach it is better than one that is accessible.

The film should be developed with a view of teaching housewives to install new appliances which make the home safer.

Electricity is safer for lighting and cooking than gas, coal or gasoline. Housewives who live where such is obtainable should be taught to equip their homes on the electrical plan.

If electricity is not obtainable they should be instructed regarding the safest way to use gas, kerosene, gasoline and other artificial fuels and light.

A housewife knows there is a fire department, but her connection begins with it only when fire visits her own home. The average woman does not believe a fire will ever occur in her house; she has gone on for years without a fire and she becomes negligent.

The government has asked us to conserve within the home and we can save in no better way than by preventing fires.

The masculine side of the house should not be overlooked by any means. They have many Fire Prevention lessons to learn. A man who enjoys his smoke on the couch after supper often dozes off and his pipe or cigar drops from his mouth and he may wake up too late to save the house from total destruction.

Fire Prevention rules are violated in the kitchen every day. Fires frequently result from boiling fat as in frying potatoes, cooking of doughnuts and the like. If the utensil is too shallow or too much fat is used the danger of boiling over or of the vapor becoming ignited is ever present.

Women have frequently set fire to their clothing when trying to smother

burning meat from the oven. Women should be taught to throw salt on the burning meat and not water.

Inflammable materials and ingredients used about the household cause an immense number of fires. Many housewives know better than to use, say gasoline near a flame and every housekeeper knows better than to pour oil in a stove to hurry a coal fire. But they continue to do these things.

Like some soldiers when they start into battle not thinking that there will be a bullet for them, the average housewife thinks the tragedy of fire will never knock at her door.

Fire prevention films might cause her to stop and think.

## SOME HOLIDAY SUGGESTIONS.

Do not take foolish risks.

Try to have a good time, but do not endanger life and property in doing so.

Remember safety first.

Do not use lighted candles on Christmas trees; get the electric kind, carefully wired.

If candles are used, permit elders only to light them and see that they are not in close proximity to anything inflammable.

Keep all matches away from the children.

Fire proof all flimsy decorations if possible and do not use cotton batting for snow effects or tissue paper for decorative purposes under any conditions.

For snow effects use mineral wool.

If there are any open gas jets see that they are protected and that there are no drafts while the tree is lighted.

Have a fire extinguisher of some sort handy.

Remove all Christmas trees within two or three days. Some persons allow them to remain until New Years. This is wrong. There is nothing more inflammable than dry Christmas greens.

Fire once started in a room decorated for Christmas is likely to spread with terrible swiftness.

Every year the papers tell of many homes destroyed and many people burned to death as the result of Christmas fires.

Make this a safety first Christmas.

## CHRISTMAS TREE NOT THE ONLY FIRE HAZARD.

Christmas trees and lighted candles, not to mention the usual decorative scheme of cotton batting, tissue paper and celluloid gee gaws are not the only holiday fire hazards.

We have with us about this time the careless merchant who fills his show windows with costly holiday goods—much of it highly inflammable and then decorates the whole with trimmings of tissue paper and cotton batting. In the arrangement of the lighting scheme, there is either an open gas jet or electric lights are carelessly strung about. Similar carelessness extends to other interior displays and decorations.

We also have with us about this time and until the close of the holidays the usual line of entertainments given in homes, churches, schools and stores. The decorations are usually the product of home talent and are generally of the cheapest and flimsiest character obtainable. Japanese lanterns predominate and there is always a Santa Claus. Safety is generally secondary.

That many and disastrous fires result from such is not to be wondered at and that education has not put such practices out of business is something to astonish. The conditions complained of, however, are being reduced to the minimum. True in the country districts decorative and lighting effects are trifle more crude than those obtainable in the population centers, but they are learning and the Christmas fire records for Minnesota show it.

Make this Christmas a Safety First Christmas.

## Do You Know?

That the charred remains of one year's fires in the United States would line both sides of a highway one thousand miles long?

That every three-quarters of a mile along this same highway there would be a ruin in which a human had perished?

That every mile of the way would represent five other people burned and injured?

And that eighty per cent of this is preventable?

## TOTAL FIRE LOSSES FOR THE MONTH OF OCTOBER, 1919.

	No. of Fires	Value of Bldgs. & Contents	Dam. to Bldgs. & Contents	Ins. on Bldgs. & Contents
St. Paul . . . . .	30	526,750	12,775	406,400
Minneapolis . . . . .	53	1,062,850	29,315	834,500
Duluth . . . . .	9	52,900	4,430	38,450
Outside 3 Cities . . . . .	68	479,469	186,032	307,290
Total . . . . .	160	2,121,969	232,552	1,586,640
October 1918.				
St. Paul . . . . .	32	1,866,075	8,070	1,706,300
Minneapolis . . . . .	54	1,947,960	29,805	1,583,550
Duluth . . . . .	11	235,178	40,528	196,050
Outside 3 Cities . . . . .	562	1,574,159	1,313,056	527,522
Total . . . . .	659	5,623,372	1,391,459	4,013,422

Note—Heavy 1918 fire losses are due to the extraordinary forest fires of that period.

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# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 7

Saint Paul

December 15, 1919

## FRIEND OR ENEMY?

Who am I?

Listen!

In cellars, closets, attics—everywhere—I am conceived.

Born of a touch, I become a tornado. Before my fury man is helpless.

I cheer the heart of the shivering and destroy the millionaire in his home.

In the United States each year I claim a sacrifice of 9,000 innocent lives.

Without me the world would stop—never could have been born in fact.

I turn the wheels of commerce.

Each year upon my altar, carelessness lays a quarter billion dollars of the fruits of man's industry.

He who controls me will find the Midas touch.

When I stalk, behind me lies desolation.

My breath gives life; yet in my embrace all things die.

I am relentless. My rule is absolute, and yet an abject subject am I.

I leap to do man's slightest bidding. Without my aid he would be powerless.

Men worship me, curse me, love me, fear me, hate me, marvel at my works.

All have been warned against me, yet they heed not.

Who am I?

I am man's best friend—and bitterest enemy.

I AM FIRE

# MINNESOTA STATE FIRE COLLEGE

THE FOURTH OF A SERIES OF ARTICLES GIVING AN ACCOUNT OF THE FIRE COLLEGE HELD IN ST. PAUL SEPTEMBER 22 TO 26 UNDER THE DIRECTION OF THE STATE FIRE MARSHAL.

THE FIRST ARTICLE APPEARED IN BULLETIN NO. 4.

## "FIRE DEPARTMENT RESCUE WORK"

By LEON L. WOLF  
Instructor

### LESSON IV.

**W**HENEVER there is a case of drowning, asphyxiation or suffocation, the Fire Department or the Police Department is usually called, sometimes even before a physician or surgeon is summoned. It is therefore necessary that a fireman should understand the theory and practice of resuscitation or artificial respiration, not only for the emergencies that arise in fire fighting, but in order to be able to handle intelligently an emergency case of drowning or suffocation when he is called upon. The following rules in drowning should be followed.

1. Always pull the body completely out of the water.
2. Loosen clothing, clear mouth and secure hold on tongue.
3. Clear air passages.
4. Start artificial respiration, never hurry breathing movements, take four or five seconds for each.
5. Apply warmth and friction. When the patient is conscious give hot water, coffee or hot lemonade.
6. Never forget that artificial breathing is of first importance.
7. Don't give up, keep at work for hours, if necessary. Persons have been revived after two and one-half to three hours of steady work.

There are two different methods of artificial respiration—one known as the Shaefer Method and the other as the Sylvester Method. We will first take up the simplest method, known as the Shaefer Method, as this can be operated by one person. The Sylvester Method requires two operators.

#### Only One Operator for Shaefer Method.

The Shaefer method or prone method is a simple method of restoring breathing. It has the great advantage that it can be performed by one man. This method has just been endorsed as the preferable one by a commission representing the American Medical Association, the National Electric Light Association and the American Institute of Electric Engineers.

First, lay the patient face downward, with the head to one side, arms stretched forward, and withdraw his tongue, which will then hang out itself, after teeth are held apart with some small object. Loosen all tight clothing. The operator then

kneels astride the patient's head and with hands across the lower ribs, swings his body back and forth rhythmically, pausing about two seconds, as weight falls upon, and is removed from the patient, as is shown in Illustrations One and Two.



Shaefer—One.

This movement is to be performed no oftener than 15 times per minute.

#### Sylvester Method Requires Two Persons.

1. Immediately loosen the clothing about the neck and chest, exposing them to the wind, except in very



Shaefer—Two.

severe weather. Get the water out of the patient first by tickling throat with a feather, or applying ammonia to the nose. Give a severe slap with the open hand upon the face and soles of feet; if there is no immediate result, proceed as follows:

2. Lay the body in the open air, with the head hanging down, and with its weight on the stomach,

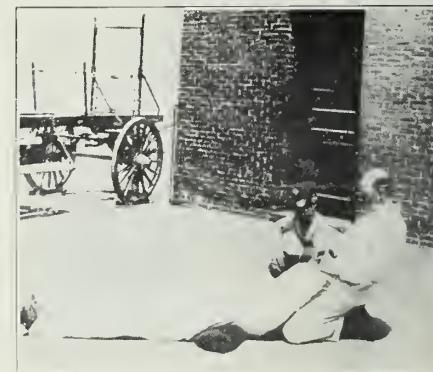
across any convenient object, such as a keg, box, boat, timber or your knees. Open the mouth quickly, drawing the tongue forward with a



Sylvester—Three.

handkerchief or cloth to let the water escape. To relieve the pressure on the stomach, roll the body from side to side and then back on the stomach. Do this several times to force the water from the stomach and throat after the water is expelled.

3. Lay the body on the back, make a roll of a coat or any garment



Sylvester—Four.

and place it under the shoulders of the patient, allowing the head to fall back, then kneel at the head of the patient. Open patient's mouth and place some small object between the teeth. Then with a pair of pliers or fingers covered with gauze or cloth, grasp his tongue and draw it out, tying it down to his chin with a cloth or rubber band. Grasp the patient's arms at the middle of the forearms as in Illustration Three, fold them across his stomach, and

(Continued on Page 3)

**SUGGESTED FIRE ORDINANCE FOR SMALL MUNICIPALITIES**

Compiled by the National Board of Fire Underwriters and endorsed and adopted by the Minnesota State Fire Marshal's Department as a standard for small towns and villages.

Because of its length, the code will be published in a series of installments.

**T**HIS suggested ordinance providing for fire limits and the construction and equipment of buildings in an abbreviation of modern requirements representing best practice in building construction. It has been compiled with special reference to the necessities of small towns. It is designed to arrest present hazardous practices and to serve as a reasonable regulation of ordinary building construction in communities where congestion of values is not abnormal.

**ORDINANCE PROVIDING FOR FIRE LIMITS, AND THE CONSTRUCTION AND EQUIPMENT OF BUILDINGS IN SMALL TOWNS AND VILLAGES.**

Be it ordained by the.....  
.....of the.....  
.....as follows:

**Section 1. Fire Limits.**—The following shall be and are hereby declared to be the fire limits: Beginning at

(Insert here boundary of the fire limits, which should include the business district and several blocks around it. It should also include manufacturing sections, and any mercantile section.)

to the point of beginning.

**Section 2. Permit Required.**—No wall, structure, building or part thereof, shall hereafter be built, enlarged, or altered, until a plan of the proposed work together with a statement of the materials to be used, shall have been submitted to the (Chief of the Fire Department or other designated official)\*, who shall, if in accordance with the provisions herein contained, issue a permit for the proposed construction.

\*The enforcement of this ordinance is properly the duty of the Building Inspector. In a municipality not having such an official, the duties can most advantageously be performed by the Chief of Fire Department.

Structures hereafter erected without permit, or not in conformity with this ordinance shall be removed.

No building shall be moved until a permit has been obtained from the Chief of Fire Department or other designated official; and such official shall not issue such permit if in his judgment the proposed new location of the building would seriously increase the fire hazard of the surrounding buildings.

Each building permit shall recite this section.

**Section 3. Incombustible Walls, Cornices, and Roofs, Required Within Fire Limits.**—Every building hereafter erected or enlarged within the fire limits, shall be enclosed on all sides with walls constructed wholly of stone, well burned brick, terra

cotta, concrete, or other equivalent incombustible materials; and shall have the roof, also the roof, top and sides of all roof structures, including dormer windows, covered with incombustible material. All cornices shall be of incombustible material.

**Section 4. Permissible Wooden Structures Within Fire Limits.**—No frame or wooden structure shall hereafter be built within the fire limits as given herein, or as they may hereafter be established, except the following; and all roofs placed upon such buildings or structures shall have an incombustible covering:

- (a) Temporary one story frame buildings for use of builders;
- (b) One-story sheds open on the long side, not over 15 feet high, with sides covered with incombustible material, and with an area not exceeding 500 square feet. A wooden fence shall not be used to form the back or side of such sheds;
- (c) Wooden fences not over 10 feet high;
- (d) Piazzas or balconies not exceeding 10 feet in width, nor extending more than 3 feet above the second-story floor beams. No such structure shall extend beyond the lot line, or be joined to any similar structure of another building;
- (e) Bay windows when covered with incombustible material;
- (f) Small outhouses not exceeding 150 square feet in area and 8 feet in height;  
Wooden sheds or outhouses shall not be located within 5 feet of any lot line, nor less than 30 feet from any other building over one story high.

(To be Continued)

**"Fire Department Rescue Work"**

(Continued from Page 2)

raise them over his head to a perpendicular position, as in Illustration Four, drawing them backward, straight, then forward over head to the sides again, placing the arms on the lower part of the ribs and side, so as to produce a bellows movement upon the lungs. Do this about 15 times per minute. Apply smelling salts, camphor or ammonia to the nostrils to excite breathing. On signs of life or with breathing restored, remove the clothing, dry the body and wrap the patient in warm blankets or hot cloths. To encourage circulation, briskly rub the limbs under the blankets toward the heart. Brandy or aromatic spirits of ammonia may be given in small doses, with care to avoid strangulation.

**Can Be Used for Suffocation.**

Both of the above described methods of artificial respiration may be used in the cases of suffocation caused by inhalation of poisonous gases, vapors, such as illuminating gases, charcoal vapor, gas in wells, sewer gas, mine gas and by smothering.

In all cases it must be remembered that no matter how proficient a man may be in the art of restoration, a physician should be summoned as quickly as possible. In cases of suffocation or asphyxiation remove the patient to pure air, remove all tight bands about the neck and chest at the same time you are applying artificial respiration. Apply heat to the body by means of hot water bottles or hot sand bags. If possible, put a mustard plaster above the heart and on soles of the feet and on the wrist.

When the patient is recovering, give mild stimulants. In attempts of rescue work, take care to avoid danger to the rescuer. If the patient is in a closed room, break the windows and open and swing the door rapidly in order to change the air.

**FIRE LOSSES FOR MONTH OF NOVEMBER, 1919.**

	No. of Bldgs. Fires	Value of Bldgs. & Contents	Loss on Bldgs. & Contents	Ins. on Bldgs. & Contents
St. Paul .....	29	\$1,831,250	\$8,750	\$1,366,075
Minneapolis .....	67	6,530,850	192,970	5,210,135
Duluth .....	11	229,050	6,110	155,250
Outside 3 Cities.....	74	758,037	126,379	469,033
Total .....	181	\$9,349,187	\$334,209	\$7,200,493

**FIRE LOSSES FOR MONTH OF NOVEMBER, 1918.**

	No. of Inv. 14 Fires	Value of Bldgs. & Contents	Loss on Bldgs. & Contents	Ins. on Bldgs. & Contents
St. Paul .....	34	\$274,640	\$18,775	\$226,750
Minneapolis .....	39	560,300	28,505	391,700
Duluth .....	10	408,175	18,775	386,800
Outside 3 Cities.....	124	582,129	440,001	145,671
Total .....	207	\$1,825,244	\$506,056	\$1,150,921

# FIRE MARSHAL BULLETIN

## THE AUTOMOBILE GARAGE.

**W**ITH the rapid growth of the automobile industry and the almost general use of the gas driven vehicle for pleasure and business has come a new fire hazard—the automobile garage. Such shelters are to be found at the rear of thousands of dwelling houses and where used for public purposes have even exceeded the livery stable of boyhood memory in point of number.

Housing as they do a vehicle or number of vehicles the motive power of which is gasoline, not to mention the more heavy oils used in their lubrication, each and every one of such automobile shelters constitutes a fire hazard of the most dangerous character, yet strange to relate, few municipalities give them the attention they should have. As to a majority of the owners, all the interest they have is protection from the elements. Safety in respect to fire and danger to surrounding property is secondary with many of them.

The dangerous feature of the rapid increase in the number of private and public garages is the tendency to convert any old building available into an automobile shelter. In the case of the public garage and its accompanying repair shop, particularly in the small towns and villages, frame buildings with wooden floors and heated by stoves are a common form of public garage while even in the cities and the centers of population, abandoned churches and livery stables are not infrequently pressed into use. In nearly every instance carelessness abounds. Open lights are used for illuminating purposes while greasy rags and waste are scattered everywhere. As to the private garages, those connected with the more pretentious homes are generally in keeping as to construction and safety, but for every one of this kind there are thousands where their construction and erection only extends to the merest of protection from the elements. It is generally a wooden building, often an abandoned outbuilding or stable, and like its more pretentious neighbor, the public garage is frequently the depository of all kinds of inflammable trash. There is no pretence in the matter of fire precaution.

Thanks to insurance policy demands and the activity of safety officials many municipalities have reduced the garage hazard to the minimum. In the smaller towns and villages they still constitute a menace and it is this menace that the fire marshal's department is anxious to see eliminated. For their guidance a standard form of building ordinance for garage and individual automobile shelters has been prepared and every effort is being directed at its adoption.

In this advanced age there is no excuse for the wooden garage. It should be of brick or hollow tile with concrete or earthen floor and commodious. Crowding is dangerous.

## BUILDINGS CONDEMNED

### Minneapolis, St. Paul and Duluth

1919

#### MINNEAPOLIS

Owner	Location	Kind of Building
B. F. Nelson Manufacturing Co.,	409 Main St. N. E.,	Shack
D. Aberle & Sons,	619 Marshall St. N. E.,	Shack
Paul Van Kuster,	2023 Washington Ave. S.,	Store
Frank L. Peterson,	1718 Elliott Ave.,	Barn and shed
Chicago, Mil. & St. P. Ry. Co.,	2841 5th Ave. S.,	Dwelling
Chicago, Mil. & St. P. Ry. Co.,	2837 5th Ave. S.,	Dwelling
Conn. Life Insurance Co.,	1406 Clinton Ave.,	Barn
Johnson & Co., et al.,	275-9 Cedar Ave.,	Auto Storage
D. T. Munson, G. E. Hedberg,	100 5th St. N. E.,	Barn
L. C. Erbes,	1419-21 4th St. S. E.,	
J. C. Wilson,	79 Western Ave.,	
Peter J. Nyvall,	2915 1st Ave. S.,	Dwelling and barn
Andrew M. Hunter,	107-9 4th St. N. E.,	Barn
Mrs. M. J. Cummings,	101 4th St. N. E.,	Dwelling
George T. Baxter,	722-4 14th Ave. N.,	Dwellings
Gus Juhnke,	407 20th Ave. N.,	Barn
Mary Ann Dunn,	116 S. 2nd St.,	Store
C. E. Wales,	1426-28 Chestnut Ave.,	Dwellings
A. E. Park,	3642 20th Ave. S.,	Dwelling and barn

#### ST. PAUL

From July 1st

Otto Bremer,	466-74 St. Peter St.,	Shacks
Cora A. Joerns,	2273 Hampden Ave.,	Shed
Annie Leonard, Vic Anderson,	2428 Territorial Road,	Barn
Butler Bros., G. H. Young,	1325 Summit Ave.,	Barn
May Ryan, J. J. Kenna Mfg. Co.,	S.E.cor. Penn & Jackson,	Shack
Julianne Diller,	880 Rice St.,	Shack
Jefferson & Hoard Land Co.,	N. E. cor. Wabash and La Salle,	Warehouse
May Shattuck & Ida O'Brien,	110 E. Arch,	Shacks
Nichols Feyen,	277 Burgess St.,	Shop
Harold M. Feyen,	915 Gaultier St.,	Barn
W. A. Murphy,	Cor. Jackson & Penn,	Shack
Butler Bros.,	451 University Ave. W.,	Barn
Allen P. Boyed,	396-8 Dale St.,	Barn
Fritz & Irene Nay,	563 Central W.,	Barn
Emilie Kirsch,	808 Annen St.,	Barn
Emilie Kirsch,	Dodd Road,	Blacksmith shop
Barrett & Zimmerman,	528 Prior & 194 Univ. Av.,	Shops
August D. Klemman,	177 S. Wabasha St.,	Laundry
J. P. Adamson,	1920 University Ave.,	Shack
Alice K. Bacon,	183 Smith Ave.,	Dwelling
Alice K. Bacon,	260 W. 3rd St.,	Shack
Andrew J. Leighton,	266 W. 3rd St.,	Barn
Meyer Rosenstein,	848 Rice St.,	Vacant Bldg.
Bowlin Realty Co.,	392 Wacouta St.,	Restaurant
James Maloney,	354 Chestnut St.,	Dwelling
John A. Stees Co.,	649 Jackson St.,	Stable
Minnie Heim,	144-8 E. 6th St.,	Store
John A. Berkey,	218 S. Exchange St.,	Sheds
Francis G. Larkins,	1244 Van Buren St.,	Dwelling

St. Paul condemnations for the first 6 months appeared in the August Bulletin.

## SOME GARAGE DON'TS.

Do not permit smoking about the garage, or near cars when tanks are being filled.

Do not permit open lights or flames in the garage. Use only incandescent electric lights.

Do not permit motor to remain running while gasoline tank is being filled.

Do not yourself, or permit anyone else to light a match to see how much gasoline is in the tank.

Do not handle gasoline except in approved safety cans.

Do not use gasoline for cleaning purposes except in a room separated from the main garage by fire wall.

Do not permit accumulations of oily waste, but deposit such waste and rags in approved waste cans.

Do not fail to provide a sufficient number of fire extinguishers, pails of sand and other fire retardants.

Do not fail to keep the garage clean.

Do not permit cars to be stored in barns, nor in other frame buildings with wooden floors.

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UNIVERSITY OF IOWA

JUN 20 1920

# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 8

Saint Paul

January 15, 1920

## CAUTION SAYS TO THE HEAD OF THE HOUSEHOLD:

"You are responsible for the safety of those dependent upon you, or those who find shelter under your roof.

"You should know the hazards that menace them.

"This is a great responsibility and it rests upon YOUR shoulders.

"If fire should break out in your home it might cost the lives of some of your loved ones or someone sheltered by you.

"Study this matter of fire protection. Consult with those who are qualified to advise you.

"Don't lay yourself open to the reproach, 'you were negligent.'

"Carelessness and negligence are a standing invitation to fire to visit your home.

"Be sure that you have done YOUR part in protecting your home from fire."

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330 State Capitol  
St. Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

ST. PAUL, JAN. 15, 1920

The Bulletin will be mailed to any address regularly upon request

**NATIONAL FIRE LOSS IN 1919.**

**F**IRE losses in the United States and Canada during 1919 totaled \$260,785,000. This staggering economic waste of property values is greater than in any previous year save in 1918 when the loss aggregated \$317,014,385 and in 1906 when the San Francisco conflagration ran the loss figure up to \$459,710,000. As terrible as the fire waste total for 1919 may seem it by no means represents the entire economic destruction resulting from fire. It is more than safe to say that unreported fires in outlying districts combined with the losses suffered by certain inter-insurers and self-insurers would add many millions more to the reported losses.

Perhaps one of the most remarkable features of 1919 was the unwelcome increase in the burning ratio throughout the country during the month of December. The losses by fire for the month just ended reached the surprising total of \$27,366,500 which is almost double the record for that month in 1918 and about equal to the experience suffered in the same month of 1917. Fire underwriters lay the blame for this unusual total on the cold wave which continued throughout the greater part of the month and to the increased values of the property destroyed. Considered solely from the point of figures last year's fire loss record without a doubt is a serious one but there are other features to be considered which greatly mitigate its comparative significance. The main contributing reason according to underwriters, is the fact that losses during 1919 were figured more nearly on a basis of actual replacement costs than during preceding years, which in view of the general inflation tends to make the actual property destroyed in 1919 exemplify a greater reduction from 1918 than is expressed in the valuation figures. Even so the actual figures for last year show a decrease of over \$48,000,000 from figures of 1918.

**THE PIPELESS FURNACE.**

The pipeless furnace of modern times is not immune in respect to contributing causes. In Wabasha county a furnace of this kind set on a wooden floor and with only a thin sheet of asbestos between it and the floor started a lively blaze which was put out with difficulty.

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**ORDINANCE PROVIDING FOR FIRE LIMITS, AND THE CONSTRUCTION AND EQUIPMENT OF BUILDINGS IN SMALL TOWNS AND VILLAGES.**

**ARTICLE TWO**

(g) Grain elevators, coal pockets, or ice houses, as usually constructed.

No frame building shall be moved from without to within the fire limits.

**Section 5. Repairing Frame Buildings Within Fire Limits.**—Any existing frame building within the fire limits, which may hereafter be damaged by fire, decay or otherwise to an amount greater than one-half of its present value, exclusive of the foundation, shall not be repaired or rebuilt, but shall be removed.

**Section 6. Buildings Having Prohibited Occupancies Within Fire Limits.**—No building shall be used for a public garage, coffee roaster, bakery, or dry cleaning establishment, within the fire limits, unless it be of fireproof construction.

**Section 7. Limits of Height and Area.**—No building hereafter erected or altered shall exceed four stories or 55 feet in height, unless it be of fireproof construction, when it shall not exceed ten stories or 125 feet. Except as specified in Section 21, no building hereafter erected having walls of hollow terra cotta or concrete blocks, shall exceed three stories, or 40 feet in height.

The floor area between fire walls of non-fireproof buildings shall not exceed the following: When fronting on one street, 5,000 square feet; when fronting on two streets, 6,000 square feet; and when fronting on three streets, 7,500 square feet. These area limits may be increased under the following conditions as indicated:

For non-fireproof buildings, fully equipped with approved automatic sprinklers, 66 2-3 per cent.

For fireproof buildings, not exceeding 125 feet in height, 50 per cent.

For fireproof buildings not exceeding 125 feet in height, fully equipped with approved automatic sprinklers, 100 per cent.

**Section 8. Walls.**—All exterior, or division walls of buildings hereafter erected, shall be of sufficient thickness to support the load to be carried; but in no case shall a brick, stone, concrete, or hollow block wall be less than 12 inches thick.

Walls, excepting party and fire walls, for all buildings of other than the dwelling house class, not exceeding five stories or 65 feet in height, shall have the upper two stories not less than 12 inches thick, increasing 4 inches in thickness for each two stories or fraction thereof below. For such buildings in excess of five stories, but not exceeding ten stories or 125 feet in height, the top story shall be not less than 12 inches thick, increasing 4 inches in thickness for each two stories or fraction thereof below. No two story increment shall exceed 30 feet in height.

For all walls of buildings of the dwelling house class, the upper three stories shall be not less than 12 inches thick, increasing 4 inches in thickness for each three stories or fraction thereof below. No three story increment shall exceed 45 feet in height.

Walls in skeleton construction shall be of brick or stone concrete. They shall be supported by girders at each story, shall be laid in Portland cement mortar, and shall be not less than 12 inches thick.

In all buildings, except dwellings, frame buildings, and skeleton construction, party walls and fire walls which serve as bearing walls on both sides, shall be not less than 16 inches thick in the upper two stories or upper 30 feet, increasing 4 inches in thickness for each two stories or fraction thereof below. All other fire walls shall be not less than 16 inches thick in the upper four stories or upper 50 feet, increasing 4 inches in thickness for each two stories or fraction thereof below. No two story increment shall exceed 30 feet in height. Portland cement mortar only shall be used in such walls.

Reinforced stone or gravel concrete walls with the steel reinforcement running both horizontally and vertically and weighing not less than one-half pound per square foot of wall, may have a thickness 4 inches less than that prescribed for brick walls.

Stone walls shall be 4 inches thicker than required for brick walls.

The foundation walls of all buildings over two stories in height shall be 4 inches thicker from footing to grade than required for the remainder of the wall.

(To be Continued)

# MINNESOTA STATE FIRE COLLEGE

THE FIFTH OF A SERIES OF ARTICLES GIVING AN ACCOUNT OF THE FIRE COLLEGE HELD IN ST. PAUL SEPTEMBER 22 TO 26 UNDER THE DIRECTION OF THE STATE FIRE MARSHAL.

THE FIRST ARTICLE APPEARED IN BULLETIN NO. 4.

**"FIRE DEPARTMENT  
RESCUE WORK"**  
By LEON L. WOLF  
Instructor

## LESSON V.

**T**HIS lesson deals with the preparation of firemen and laymen for jumping into life nets and the application of the tourniquet for stopping hemorrhage.

Most people who are hurt jumping into life nets suffer spinal injury because they do not know how to land in the net and because the head is one of the heaviest portions of the body. When the shock comes upon landing in the net, the head is drawn back, bringing a special shock and strain to the spine. Illustration One, shows how to prepare a subject for jumping into the net. Take a coat, a pair of trousers or a small blanket and fasten it around the neck of the person who is about to jump, with the knot under the chin. This takes the weight of the head off the spine. The person in danger should be instructed to jump clear out into space, the same as if he were going to jump over a ditch, throwing the arms straight out from the shoulder and drawing up the knees slightly toward the chin. Jumping in this way will cause the body to land in an inclined sitting position and the body will conform to the shape of the net without causing any strain on any particular part of the body.

### A Tested Method.

This method of jumping into life nets has been practiced several years at the Philadelphia Fire School with great success and to my knowledge, no one has ever been injured in this practice work. In beginning practice work, no one should be asked to jump a greater distance than eight or ten feet, and this should be the distance for two or three days until the man practicing gets perfect confidence in himself and follows out explicitly the directions given above.

### How to Use the Tourniquet.

The tourniquet is a simple device designed to stop a profuse flow of blood from severed arteries in severe injury to arms or legs. It consists of a strong piece of tape fastened to a wooden handle. The tape is wound once about the limb between the heart and the injury, then placed through a slit cut in the handle and then under the handle. The handle is twisted until sufficient pressure is applied to the artery to stop the blood spurt. The tourniquet should be allowed to remain



Illustration One.



Illustration Two.

in place only long enough to stop the flow of blood. Where injuries require the use of a tourniquet, the patient should be taken to a hospital or to a physician as soon as possible.

The tourniquet described above is of the ready made type which can be bought at any drug store. Illustration

Number Two shows an improvised tourniquet made by fastening a handkerchief around the limb of the patient between the wound and the heart. A stick is placed under the handkerchief and then twisted until the blood spurt has stopped, then the stick is tied down at the other end with another handkerchief or twine. These first aid practices should not deter any one using them from getting patients to a hospital or physician as soon as possible.

### Mammal Resuscitation Aided.

In the last lesson, the subject of resuscitation was considered. Since writing that lesson, I have learned that there is a method of administering oxygen under pressure in cases of asphyxiation where the Shaefer method of resuscitation is used. A device has been manufactured with which oxygen can be administered with great success to the patient while the Shaefer method is being applied. Later in this series I shall comment on this device.

### FIRE BOAT FOR DULUTH.

In point of tonnage Duluth is recognized as the greatest shipping port in the world. Yet despite the millions of dollars in property annually handled by its shipping facilities and additional millions at stake in the great warehouses along its water front, its only fire protection is the inland service provided by the Duluth Fire Department. It has no fire boats.

Recognizing this lack and its urgent need, Chief Joseph Randall of the Duluth Fire Department, has recommended the immediate purchase of an up-to-date fire tug.

Duluth's fire department is one of the best equipped and most efficiently manned organizations in the state. Under ordinary conditions they are able to hold their own but there are many places along Duluth's water front where bad fires might occur and where it would be practically impossible for them to get to the base of the fire with their present equipment.

Chief Randall's recommendation has the endorsement of this office and should be backed up by everyone interested in the fire protection of the city of Duluth. It is sincerely hoped that the city of Duluth will take immediate steps to provide this much needed protection.

### SMOKING IN BED.

The property loss was small, but smoking in bed cost J. J. Quilty, a resident of Minneapolis his life. The bed clothing caught fire and when Quilty awoke it was to find himself a mass of flames.

# FIRE MARSHAL BULLETIN

## AN OBJECT LESSON.

**S**MALL municipalities throughout the state have an excellent object lesson in the disastrous fire which recently reduced to ashes half a block of the business section of Zumbrota. Over \$80,000.00 worth of valuable business property went up in smoke and all because of a defective water system.

The fire which started from a leaking gasoline burner under a coffee urn in a restaurant could undoubtedly have been extinguished with little loss had first aid equipment in the shape of a hand extinguisher been available. However, this protection was lacking and there is no question but what the fire department would have succeeded in confining the fire to the storeroom in which it started had not the unexpected thing happened.

The department would have been able to have handled the situation with the equipment at hand. They had the arms but no ammunition. Their water system failed to function, due to defective valves permitting the water to run back into the well and not forcing it on to the firing line. The firemen did all they possibly could do under the circumstances but fighting fire without water is discouraging to say the least. About all they could do was to stand by helpless and watch the fire spread from one building to another.

Zumbrota will undoubtedly profit by this experience. City Officers, or those responsible for the condition of public fire protection, will see to it that everything in connection with their fire fighting equipment is kept in fit condition and ready for service.

This same condition may exist in other Minnesota towns and it behooves those upon whose shoulders rests the responsibility of looking after such equipment to have it thoroughly inspected and make sure that it will be ready for service at all times.

## AVOIDABLE FIRE WASTE.

It is inconceivable that of \$5,000,000,000 worth of construction work done in the United States every year 60% of the amount is destroyed by fire, but such is the claim made by underwriters. They further declare that of this immense loss, 80% is avoidable. Could the cause of fire prevention be more eloquently presented?

## FURNACE PIPES AND BOXES.

The piling of boxes and other inflammable material against furnace pipes or in close proximity to the average unprotected heating plant is quite common. Of a number of fires reported recently several are credited to this one cause. In Minneapolis only a few weeks ago a restaurant in the business section was completely put out of business because of boxes piled directly against a furnace pipe. A loss of over \$3,000 was suffered with less than one-half of the amount covered by insurance.

## BUILDINGS CONDEMNED 1919

### DULUTH

Owner	Location	Kind of Building
Daniel Horgan,	108 W. 1st St.,	Barns
F. G. German,	926 E. Superior St.,	Store
Farmers Loan & Trust Co.,	307 W. Superior St.,	Store
Thomas Sharp Est.,	61st Ave. West,	Dwelling
Mrs. Matie Nickerson,	718 54th Ave. W.,	Barn
James Rawson,	West Duluth,	Dwelling
John Ware Estate,	11 E. Superior St.,	Barn
Charles H. Houghton Est.,	305 W. Superior,	Store
William Craig,	1423 W. Superior,	Dwelling & shed
Jos. R. Oreckowsky,	1425 W. Superior,	Dwelling & shed
E. R. & A. C. Ribenack,	508 W. 1st St.,	store house
Herman Olson,	1821 W. Superior St.,	Shack
Joseph De Marco,	1811 Superior St. W.,	Garage
Mary L. Sturdevant,	2013 W. Michigan St.,	Storage
W. B. Brinkman,	2116 E. 3rd St.,	Storage
A. R. Fulton,	Alley of E. 1st St.,	Barn
Sam Shearer,	712 W. 2nd St.,	Vacant Bldg.
K. Lautenschlager,	209-11 Lake Ave. S.,	Store
William Craig,	202-4-6 Lake Ave.,	Store
William Craig,	202 Lake Ave.,	Hotel
William Craig,	214 Lake Ave. S.,	Store building
T. W. Hoopes,	208 Lake Ave. S.,	Store building
D. S. Goodrich,	216 Lake Ave. S.,	Store building
Anna Fitzpatrick,	220 Lake Ave. S.,	Store building
John L. Dodge Est.,	226 Lake Ave. S.,	Store building
Gus Carlson,	406 E. Superior St.,	Garage
James Cash,	1117 E. 6th St.,	Barn
J. E. Bowers,	503-7 E. Superior St.,	Stores
Marion A. Skarborough,	507 1/2-9 1/2 E. Superior St.,	Stores
William Porter,	259 S. 1st Ave. E.,	Repair shops
Kitty H. Barney,	332 3rd St. E.,	Vacant bldg.
New Duluth Co.,	211 Commonwealth,	Sheds
J. E. Bartz,	120 99th Ave. W.,	Shops
Joseph Komay,	118 99th Ave. W.,	Sheds
Frank H. Fuerker,	New Duluth,	Church
Mrs. W. B. Timlin,	114 97th Ave. W.,	Dwelling
Ruby Millville,	324 1/2 Lake Ave. S.,	Dwelling
Mrs. Louise Goldsmith,	231 S. 1st Ave. E.,	Dwelling
G. A. Clifford,	1111 W. 1st St.,	Barn
Mrs. Rose Farah,	2015 W. Superior St.,	Barn
Mary E. Green & Leni M. Cramer,	601 1/2 Garfield Ave.,	Storage
G. G. Hartley,	2113 Piedmont Ave. W.,	Vacant bldg.
G. G. Hartley,	211 1/2 E. Superior St.,	Vacant bldg.
G. G. Hartley,	211 E. Superior St.,	Vacant bldg.
R. M. Hunter,	209 E. Superior St.,	Store
R. M. Hunter,	305 1/2 1st St. Alley E.,	Garage
G. G. Hartley,	14 3rd Ave. E.,	Blacksmith shop
G. G. Hartley,	229 31 E. Superior St.,	Shed
Stryker Manley & Buck,	227 E. Superior St. E.,	Store
E. J. Gissler,	313-15 N. 54th St.,	Dwelling
W. B. Getchel,	1925-27 1st St. W.,	Garage & barn
Christ Tracy,	57th Ave. W. & Nicollet St.,	Dwelling
	56th Ave. & Raleigh St.,	Vacant bldg.

## TOTAL FIRE LOSSES FOR THE MONTH OF DECEMBER, 1919.

	No. of Fires	Value of Bldgs. and Contents	Damage to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	36	\$353,800	\$18,305	\$219,250
Minneapolis .....	74	5,049,400	47,269	3,769,481
Duluth .....	26	1,190,850	21,539	819,500
Outside Cities .....	135	880,964	342,055	466,135

Total ..... 271      \$7,475,014      \$429,168      \$5,274,366

## TOTAL FIRE LOSSES FOR THE MONTH OF DECEMBER, 1918.

	No. of Fires	Value of Bldgs. and Contents	Loss to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	22	\$268,915	\$46,740	\$228,700
Minneapolis .....	48	1,666,175	595,805	1,420,425
Duluth .....	7	46,500	4,825	18,600
Outside Cities .....	154	11,743,533	11,323,956	6,230,312

Total ..... 231      \$13,725,123      \$11,971,326      \$7,898,037

(Note: Total shown for outside cities for December, 1918, includes losses sustained at Cloquet on account of forest fire occurring in October but not reported until following month.)

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# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 9

Saint Paul

February 15, 1920

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JUL 16 1920



Paint and Wall Paper Combine to Make a Costly St. Paul Fire

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330 State Capitol  
St. Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

ST. PAUL, FEB. 15, 1920

The Bulletin will be mailed to any address regularly upon request

**COSTLY ST. PAUL FIRE.**

**T**HE front page illustration in this month's Bulletin is an excellent photographic view of the ruins of the Bazile & Partridge building at 468-474 Jackson Street, St. Paul, following its almost complete destruction by fire on the night of January 28th, last. The building with its three floors filled with paint and wall paper, not to mention the oil and paint soaked condition of the woodwork within, was easy prey for the fire fiend and only strenuous efforts on the part of the St. Paul fire department, which was kept at the task nearly the entire night, prevented the spread of the flames to adjoining property. When the department arrived in answer to the call, the blaze, under the influence of the inflammable material scattered about, was making rapid headway and a general call for all available St. Paul apparatus was necessary. Several narrow escapes from falling floors and walls and frequent explosions of paint and oil featured the fire, which was a spectacular one. The firm, which is one of the oldest of its kind in the Northwest, suffered a loss of nearly \$100,000. There was little salvage, the fire leaving only the standing walls. The cause of the fire is unknown. The firm was preparing to move to new quarters at the time and most of the stock had been assembled for the transfer.

**COMMON CAUSE OF FIRE.**

A stove pipe was run through a wall before it connected with the chimney and the stove pipe was old and burnt to pieces so the fire started in the wall. Loss small."

Not exactly grammatical, but it tells in plain language the cause of not a few dwelling house fires which are common about this time of the year. The above is a sample of many reports made to the Fire Marshal's department by local safety officials and serves to emphasize the need of common sense in many homes.

**CLEAN YOUR CHIMNEYS.**

Of fifty fire reports received from local safety officials by the State Fire Marshal's department in one day recently, the contributing cause in over one-third of the number was "defective chimneys and sparks from the same." The property loss in each case was small, but it was no fault of those responsible.

**SUGGESTED FIRE ORDINANCE FOR SMALL MUNICIPALITIES**

Compiled by the National Board of Fire Underwriters and endorsed and adopted by the Minnesota State Fire Marshal's Department as a standard for small towns and villages.

Because of its length, the code will be published in a series of installments.

**T**HIS suggested ordinance providing for fire limits and the construction and equipment of buildings in an abbreviation of modern requirements representing best practice in building construction. It has been compiled with special reference to the necessities of small towns. It is designed to arrest present hazardous practices and to serve as a reasonable regulation of ordinary building construction in communities where congestion of values is not abnormal. The first installment appeared in Bulletin No. 7.

**ORDINANCE PROVIDING FOR FIRE LIMITS, AND THE CONSTRUCTION AND EQUIPMENT OF BUILDINGS IN SMALL TOWNS AND VILLAGES.**

**ARTICLE THREE.**

All exterior, and division or party walls over one story high, shall extend the full thickness of top story to at least 2 feet above the roof surfacing of a building as a parapet and be properly coped, excepting walls which face on a street and are finished with incombustible cornices, gutters, or crown mouldings, excepting also the walls of detached private dwellings with peaked or hipped roofs. The parapet walls of warehouses and all manufacturing or commercial buildings shall extend 3 feet above the roof. Fire walls shall be continuous from foundation to 3 feet above roof level, and be coped.

Hollow blocks of terra cotta or concrete when used for bearing walls shall have not more than 50 per cent. of cellular space. Portland cement only shall be used in the manufacture of concrete blocks. The coarse aggregate shall be of suitable material graded in size, but in no case shall the maximum dimension exceed one-half the minimum width of any section of the finished block. Concrete blocks shall not be used in construction until they have attained the age of 28 days, or developed the strength required in this section. All building blocks shall be laid in Portland cement mortar.

The compressive strength of building blocks shall in all cases be calculated upon the gross area of the bedding faces, no account being taken of the cellular spaces. The average ultimate compressive strength for terra cotta blocks laid with cells vertical shall be not less than 1200 lbs. per square inch; the average for concrete blocks laid with cells vertical shall be not less than

800 pounds per square inch. Concrete blocks shall be not more than 36 days old when tested. The average strength of the blocks as here given shall be obtained by testing ten blocks of average quality.

The allowable working stress of hollow building blocks shall not exceed 120 pounds per square inch of gross area for terra cotta blocks, or 80 pounds per square inch of gross area for concrete blocks. If a wall be built of blocks with the cells horizontal, the allowable stress

All walls and partitions in schools, hospitals and places of public assemblage, over one story high, and all walls and partitions in theatres, shall hereafter be built of brick, stone, hollow or solid blocks, or metal lath and Portland cement plaster on metal studding, or other equivalent incombustible construction.

**Section 9. Concrete Construction.**

—Concrete for reinforced concrete construction, shall consist of a wet mixture of one part of Portland cement to not more than six parts of aggregate, fine and coarse, in such proportions as to produce the greatest density.

The quality of the materials, the design, and the construction, shall be in accordance with the best engineering practice.

**Section 10. Protection of Ends of Wooden Beams.**

—The ends of all floor, ceiling, or roof beams, entering a party or fire wall from opposite sides shall be separated by at least 8 inches of solid masonry; such separation may be obtained by corbeling the wall, oraggering the beams; or the beam may be supported by steel wall angles. No wall shall be corbeled more than 2 inches for this purpose. The ends of all wooden beams which enter walls, shall be cut to a bevel to make them self-releasing.

**Section 11. Protection of Wall Openings.**

—No opening in an interior masonry wall shall exceed 8 feet by 10 feet. If the opening be in a party or fire wall, it shall have a standard automatic fire door on each side of the wall. If an opening in a fire wall is made to serve as an emergency exit, it shall not exceed 48 square feet in area, and a self-closing fire door shall be substituted for one of the automatic fire doors. The total openings in a fire wall shall not exceed 25 per cent. in linear length of the wall.

(To be Continued)

# MINNESOTA STATE FIRE COLLEGE

THE FIFTH OF A SERIES OF ARTICLES GIVING AN ACCOUNT OF THE FIRE COLLEGE HELD IN ST. PAUL SEPTEMBER 22 TO 26 UNDER THE DIRECTION OF THE STATE FIRE MARSHAL.

THE FIRST ARTICLE APPEARED IN BULLETIN NO. 4.

## "FIRE DEPARTMENT RESCUE WORK"

By LEON L. WOLF  
Instructor

### Lesson VI.

Firemen have frequently become cripples for life or deformed through ignorance of others in handling and administering first aid to the injured. For that reason we will take up in this lesson the matter of how to treat the patient where the injured has received broken bones or fractures. A simple fracture is a break of the bone without wound or injury of surrounding structures. A compound fracture occurs when there is a wound or opening through the flesh to the fracture.

#### Treatment.

Place the patient in a position as comfortable as possible, supporting the injured portion upon a pillow, a cushion or a pad of cloth or other material. If clothing is to be taken off, remove the sound part first, being careful to avoid giving pain to the patient by unnecessary handling. Cut the clothing in the seams, if possible.

Handle a fractured limb as carefully as you would a delicate piece of rare china. Do not attempt to set the bone in a simple fracture case if a physician cannot be obtained, treat the patient at the spot where found before attempting any removal.

When it is necessary to move the patient, place a temporary splint upon the limb and bandage it firmly. In compound fractures, treat the wound and bandage it in such a way as to prevent the fragments of bones moving upon one another. In compound fractures before applying the splints, treat the bleeding and dress the wound. A good method in compound fractures is to cover the wound with iodoform gauze. Cover this with absorbent cotton and wrap the whole with a triangular bandage. Apply the splint as in a simple fracture, being careful not to bandage too tightly.

#### Splints.

The chest can be made to do good service as a splint for the arm by fastening the arm to the side with a wide roller or the triangular bandage. In the case of a broken leg, the uninjured leg will make a good temporary splint as in Illustration Two. In order to support a broken limb properly the splint must extend so as to keep the joints quiet above and below the injury. The width of

a splint should be a little greater than the thickness of the injured limb. The surface of the splint which is to come next to the part injured should be cushioned with soft and elastic material. For this purpose either absorbent cotton or ordinary cotton may be used.

In many cases it is better to have two splints, one on each side of the limb, both held in place by the same bandage.

Splints may be made from cigar boxes, book covers, lath, shingles, beams or mop handles, even umbrellas, shovels and desk rulers have been employed for this purpose. In the shop or factory, brooms, umbrellas or mops may be used as a splint as in Illustration Three.



Illustration One



Illustration Two



Illustration Three

# FIRE MARSHAL BULLETIN

## THE MOVIE IN MINNESOTA.

**N**O FORM of entertainment or amusement has attained a greater popularity than the movie. Its growth in the last five years has been phenomenal while the vast organization catering to its demands is recognized as one of the leading industries of the world. The monetary investment is in excess of a billion figure.

In Minnesota over 500 theatres devoted to the silver screen cater daily, nightly and weekly to the thousands who hunger for the silent drama and these are supplemented by many churches and schools where picture projection is occasional or at stated times. Thousands of feet of films are exposed daily in the state.

While a pleasure and also a benefit in an instructive way, the motion picture is not without its fire hazards and it is subject that is constantly engaging the attention of safety officials throughout the United States. Safety First emphasizes every step of the industry and the catalogue of don'ts covering the movie in its various stages and the buildings devoted to its presentation is a volume in size, all of which is an eloquent reminder of the fact that history has recorded but few catastrophes due to film handling and presentation.

Buildings devoted to the handling and the presentation of the movie film have always been one of the chief cares and concern of the Minnesota Fire Marshal's department. Licenses are demanded of each, safety first rules insisted on in every case and the handling, seating, comfort and safety of patrons made the first concern of the management. Constant inspection and revocation of licenses for noncompliance is the rule. The law covering the subject is broad and safety rules are constantly being added to.

The old saw runs, "Familiarity breeds contempt" and the movie is no exception as far as its application is concerned. The one and chief hazard of picture projection is the highly inflammable photographic film used and handled under the motion picture head, carelessness alone in the handling of such has invariably been responsible. Because of their highly inflammable and explosive character absolute fire proof housing is demanded in every instance; still in the face of such precaution and constant inspection small blazes and occasional fatalities are not infrequent. Witness the snuffing out of two lives in a small Minnesota town less than a month ago, all due to the careless tossing aside of a lighted cigarette in the film booth.

To the credit of motion picture managers in Minnesota there is a general desire to fully comply with all rules and demands concerning safety. Picture houses of the present day are models in this respect and where old buildings have been given over to the display of such, orders of the Fire Marshal's department and its inspectors have invariably met with a ready

response. However, there is always to be found the manager or picture operator who either knows it all or regards all safety officials as an invasion of his constitutional rights; the one who will not make any improvements except under compulsion and last but not least, the manager whose sole idea is the box office receipts first and the public last. As to the operators, conscious familiarity is the failing of a number of them. They know better, but they take chances. These are the bane of every safety official's life, but fortunately they are few. Minnesota is comparatively free of this class.

The Gopher code as it relates to theatre and motion picture houses is among the best of its kind in the United States. Its foreword is safety and prevention. Strict attention to its demands have featured its enforcement, all of which is reflected in the comparatively small fire loss and few fatalities as checked against the movie in Minnesota.

## THE OVERHEATED ELECTRIC IRON.

**O**NE of the growing causes of household fires is the electric flat iron. In the last few years its use has become quite common and many fires have been credited to the careless handling of the same. In nine out of ten cases overheating has been responsible for the fires resulting.

The heating element of the iron is a coil of wire of special composition used because of its high resistance

and of its property of standing high temperature without injury. Part of the electrical energy used in overcoming this resistance is converted into heat. This production of heat continues as long as the current flows through the iron. Part of the heat is transmitted to the surrounding air by radiation and convection, and part of it is used in heating the goods ironed and in driving out the moisture by converting it into steam.

If the iron is not disconnected when out of use, all the heat must be transmitted to the air, and the iron will gain heat until it is hot enough to get rid of all the heat in the only remaining way of transmitting it to the air and to the ironing board or any thing that will receive it. The importance of guarding against this condition cannot be overstated.

A properly designed metal stand will afford some protection but the best safeguard is always to see that the current is not left on. In addition to turning off the current at the switch the cord should always be disconnected before leaving the iron. If all users could be trained always to disconnect the cord of an electric iron before leaving it, the fires from this cause would be reduced to a minimum. An additional safeguard would be a pilot light. This is a small lamp so connected as to be lit whenever current is flowing in the iron.

## BUILDINGS CONDEMNED. January, 1920.

Owner	Location	Kind of Building
Charles Hitchcock,	Crookston,	Store
Mrs. C. Poirier.	Duluth,	Barn
Frank Labusga,	Foley,	Telephone office
St. Paul,		
John C. Beattie,	108 E. 12th St.,	Dwellings
Lydia A. Bayers,	92-104 St. Albans St., N.,	Flats
Arthur B. Barnes,	424-26 Bay St.	Dwellings
Camille V. Case,	434 South Robert St.,	Dwelling

## FIRE LOSSES.

### Month of January, 1920.

No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . . 43	\$752,975	\$117,700	\$630,350
Minneapolis . . . . . 87	2,557,200	196,906	1,670,073
Duluth . . . . . 27	1,169,305	20,040	851,600
Outside Three Cities . . . . . 126	1,059,850	391,423	559,905
Total . . . . . 283	\$5,539,330	\$726,069	\$3,711,928

No. of Inv. 13

No. of Convictions 3

## Fire Losses—January, 1919

No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . . 29	\$360,330	\$107,215	\$260,355
Minneapolis . . . . . 82	2,254,225	54,570	1,863,812
Duluth . . . . . 14	490,100	19,790	353,550
Outside Three Cities . . . . . 131	943,412	502,934	380,935
Total . . . . . 256	\$4,048,067	\$634,509	\$2,858,652

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UNIVERSITY OF MINNESOTA

JUN 20 1920

# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 10

Saint Paul

March 15, 1920

## THE YEAR JUST CLOSED.

The smallest fire loss in the history of the State Fire Marshal's Department is the enviable record for the year just closed. In keeping with the reduction in property loss is the number of fires reported.

For the year 1919 the total property loss by fire in Minnesota, as reported to the fire marshal's department and verified by personal inspection, was only \$3,891,544, as against \$5,658,535, which, exclusive of a loss of \$12,728,423, by reason of the forest fires in northern Minnesota, is the actual loss from preventative causes the year previous. The grand total for 1918 was \$17,386,958, the major portion of which, as explained, was invested in the forest fires of that year.

The number of fires reported and listed during the year was only 2,161 while 3,138 were registered for the year 1918. This later figure, however, is unfair in respect to comparison as it, too, was swelled by the northern Minnesota forest fires of that year. To this one cause alone 335 fires were attributed. However, here is a marked decrease in the matter of preventable causes.

Activities along fire prevention lines in Minnesota began with the organization of the fire marshal's department fifteen years ago. From its inception as one of the units of state government, education along the line of prevention has been a part of the definite program of the department until today it has become the keynote of operation by a propaganda extending into every county and hamlet in the state. This broadening of the department's work really began in 1911, when, by an act of the legislature, its sources of fire and loss information were placed on a more substantial basis and its authority extended. Accordingly, reliable statistics relating to the destructive effects of the fire fiend in Minnesota, the number of individual fires reported and the amount of insurance involved, date from that year.

Fire losses and the number of fires reported for the period mentioned are as follows: 1911, loss, \$5,397; 1912, number of fires, 2,240; 1912,

loss, \$3,823,251, fires, 2,512; 1913, loss, \$3,920,780, fires, 2,511; 1914, loss, \$4,375,356, fires, 2,801; 1915, loss, \$4,722,925, fires, 2,595; 1916, loss, \$4,963,533, fires, 2,962; 1917, loss, \$6,286,931, fires, 3,260; 1918, loss, \$17,386,958, fires, 3,138; 1919, loss, \$3,891,544, fires, 2,161.

As education is the basic principle of real fire prevention, the activities of the fire marshal's department have been along comprehensive lines in this respect. To impress upon the property owner and the occupant the necessity of constant vigilance is one of the fundamental rules of the system of propaganda as put into effect and the results in consequence have been far reaching. This propaganda has been through the medium of newspaper articles, leaflets, lectures, bulletins, the co-operation of the schools with local safety officials and inspection.

While the system of education as established by the department has been of vast benefit in impressing upon the public that fire loss is a needless waste and is without excuse, removing the cause of fire has not been without its good results. This one aid to the decrease in fire loss and the number of fires as noted for the year is that of inspections and condemnations. During 1919, 447 fire hazards in the shape of dilapidated buildings and shacks were condemned by the department and the demolition and removal by the owners made compulsory. This removal of local fire hazards and contributing causes of future fires was statewide. As to inspections of properties which carried with them in each instance recommendations and orders calculated to increase their fire resisting and safety features, the number was in excess of 3,000. These inspections included schools, theatres and public buildings generally.

Carelessness in the home and of the individual is the contributing agent of practically every fire recorded and too much stress cannot be laid upon the need of some law that would place the financial and criminal responsibility for such where it really belongs. For a complete verification of this claim one has only to read the list of fire causes as registered with the department and

printed in the annual report. Defective flues contributed to no less than 125 fires with a consequent loss in property of \$174,045. Sparks from soot-filled chimneys were responsible for 213 fires and a loss of nearly \$100,000 in property, and carelessness with matches for no less than 102 fires and a loss in property of over \$70,000. In nearly every instance the use of ordinary common sense would have made such impossible.

The State Fire College held in St. Paul last fall for the instruction of firemen in modern methods of fire fighting accomplished its purpose well for it not only convinced the 163 firemen who attended that the department was interested in their welfare, but it also created a new interest among them in their work. The college was held in connection with a Fire Prevention Congress and proved to be of such value that it is planned to make it an annual affair.

## MOVING PICTURE FILMS.

The dangerous character of moving picture films and the necessity of constant vigilance in the handling and storing of the same was shown recently in a fire which partially destroyed a Great Northern mail car standing on the track near Waverly in Wright county. "Spontaneous combustion" was the stock cause given, but the contributing agency was a hot stand pipe.

The films, encased, had been mailed as parcel post and were placed with other mail matter near a pipe leading to a radiator. Suddenly there was an explosion and flames burst from the case of films. While the fire was confined to that section of the car in which the films were stored, nearly three hours and tons of water were consumed in extinguishing the blaze. A moving picture film is a fire hazard at all times and under all conditions, and eternal vigilance is the one rule in the handling of the same.

Discipline and training will always win and in the interest of saving precious lives such should be carried out in the schools and institutions where children are confined.

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330 State Capitol  
St. Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

ST. PAUL, MAR. 15, 1920

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**BIWABIK HAS SPEED**

Biwabik fire laddies are confident they hold the record for speed. In any event no department has come forward as yet to contest their claim of seven miles in twelve minutes and through snow and zero weather at

On the night of Dec. 17 the Biwabik department received an urgent call from Aurora, a village seven miles distant. The call was an S. O. S. and the department without delay unlimbered its Seagrave combination pump and chemical truck and with orders to the driver to "step on 'er" fairly tore out of the station. In twelve minutes the truck was in Aurora and four minutes later the crew had the necessary hose strung and was playing water on the fire. The entire distance was made through heavy snow and with the mercury nearly thirty below.

When the run was made it was on the day that the world was supposed to come to an end, and the screeching siren of the truck as it tore over the roads and through the villages frightened many. The Biwabik department carried away the Range championship honors at the tournament held at Gilbert last July and its members are now arranging to make another clean-up at the next one to be held.

**Some Fire Loss.**

While the total fire loss for the United States and Canada in 1919 is a trifle less than \$50,000,000 under the previous year, the grand total of \$269,000,775 is something not to be proud of. Only twice has this figure been exceeded, in 1918 and in 1906, when the San Francisco fire brought the total loss up to over \$450,000,000.

The fire losses for 1919 bring the total fire losses for the last forty-one years up to the startling figure of \$7,031,966,820.

The largest individual fires during the year 1919 were those in Savannah, Ga., involving \$4,000,000 value; Cedar Rapids, Iowa, involving \$3,000,000; Norfolk, Va., \$3,250,000; and Long Island City, \$4,250,000. Altogether there were twenty-seven fires during the year, each of which resulted in an estimated property loss of a million dollars or over.

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**ORDINANCE PROVIDING FOR FIRE LIMITS, AND THE CONSTRUCTION AND EQUIPMENT OF BUILDINGS IN SMALL TOWNS AND VILLAGES.**

**ARTICLE FOUR.**

Every building within the fire limits, except churches, dwellings, tenement houses, dormitories, and lodging houses, shall have standard fire doors, shutters, or wired glass in incombustible frames and sash on every exterior opening above the first story, except when fronting on a street not less than 35 feet wide, or where no other building is within 35 feet of such opening. The wall of a building in the same plane as that in which the opening is situated, shall not be considered as coming within the intent of this rule. All openings in the side and rear walls of the first story, except show windows, shall be protected as prescribed in this section when within 35 feet of another building.

All exterior windows more than 75 feet above the curb shall have incombustible frames and sash glazed with wired glass.

Occupants of buildings shall close all exterior and interior fire doors, shutters, and windows at the close of business each day.

**Section 12. Stairway and Elevator Shafts.**—In all buildings hereafter erected, except private dwellings, which are used above the first floor for business purposes or for public assemblage, or for any purpose whatever if over three stories high, the stair shafts shall be separately and continuously enclosed by incombustible partitions. Elevator shafts in all buildings hereafter erected shall be enclosed in the same manner. The partitions shall be constructed of brick or other fire-resistant material approved by the Chief of Fire Department or other designated official, and all mortar used in the construction shall be cement mortar. No such hollow partition shall be less than 6 inches thick,

no brick partition less than 8 inches thick, and no other solid partition less than 4 inches thick.

Except as herein stated, the stair elevator or hoistway shafts in all existing buildings over two stories high, of the class described in this section, shall be separately enclosed by incombustible partitions as above specified; or the shafts may be enclosed by approved hollow or solid partition blocks not less than 3 inches thick, set in Portland cement mortar; or by 4-inch-stud partitions, covered on each side with not less than 3-4 inch of Portland cement plaster on metal lath; or by 2 inch solid metal lath and Portland cement plaster partitions. The metal framework of such partitions shall be securely fastened to both floor and ceiling. All lath used for such partitions shall be of galvanized steel weighing not less than 54 oz. per square yard. Wire lath shall be not less than No. 20 gauge, and sheet metal lath not less than No. 24 gauge. All such partitions erected in existing buildings shall be fire-stopped with incombustible material the full depth of the floor beams at each floor level.

All door openings in stair and elevator enclosures shall be protected by fire doors mounted with wrought iron or steel hardware, and shall be securely attached to the wall or partition, or to substantial incombustible frames anchored thereto. If glass panels be used in such doors, they shall be of wired glass not exceeding 720 square inches in area. Interior shaft windows shall not be permitted.

Doors opening into stairway shafts shall swing in the direction of exit travel, shall be self-closing, and shall be at least 36 inches wide.

The enclosure walls for all elevator shafts shall extend a foot above the roof, and at least three-fourths of the area shall be covered with a skylight constructed as specified in Section 13.

If in the opinion of the Chief of Fire Department or other designated official, it is necessary to preserve an open elevator or hoistway in an existing building, the floor openings through which it passes shall be equipped with automatically closing trap doors not less than 1½ inches thick, made of two thicknesses of matched boards, covered on the under side with tin; the trap doors when closed shall extend beyond the openings on all sides. Such trap doors shall be protected by a substantial guard or gate, which shall be kept closed at all times except when in actual use.

(To be Continued)

# MINNESOTA STATE FIRE COLLEGE

THE FIFTH OF A SERIES OF ARTICLES GIVING AN ACCOUNT OF THE FIRE COLLEGE HELD IN ST. PAUL SEPTEMBER 22 TO 26 UNDER THE DIRECTION OF THE STATE FIRE MARSHAL.

THE FIRST ARTICLE APPEARED IN BULLETIN NO. 4.

**"FIRE DEPARTMENT  
RESCUE WORK"**  
By LEON L. WOLF  
Instructor

## LESSON VII.

When the fumes of ammonia, acid, sulphur, chemicals, or similar liquid substances are escaping in a building, it should be ventilated thoroughly. In entering such buildings a gas or smoke helmet should be worn, and for fumes exclusive of ammonia fumes, a wet cloth or sponge may be placed over the mouth. A wet cloth or sponge should not be used in connection with ammonia, as ammonia has an affinity for the moisture and is liable to burn the wearer severely. Where it is impossible to follow out any of the above directions the hands should be placed over the mouth and nose, and in-

ward breathing checked as much as possible.

Ammonia used for making ice will not burn. It will put out a fire when confined in tanks. When heated by fire it will expand and explode.

The fumes of ammonia and acids are very severe and injurious to the lungs of firemen when encountered at fires or elsewhere and will overcome them quicker than anything else. For that reason care should be taken to ventilate thoroughly any building or premises where they are escaping before entering.

Spray streams of water directed about (not on) in or outside of a building where there are ammonia or acid fumes will greatly lessen their deadly effect and scatter them; and should be resorted to in addition to the ventilation where there is life in danger or where the spray streams will not do unnecessary damage.

### Acid Dangers.

When acid in liquid form is spilled it should be covered with ashes, sand,

dirt, chemical powder, salt, sawdust or similar substances to soak it up. Water should not be used directly on the acid unless there is fire which cannot be extinguished otherwise, as water only spreads the acid and makes it boil and fume a great deal more.

There are certain acids, chemicals and substances that will take fire, or create dangerous and explosive gases or fumes when mixed with water; these are generally encountered in drug stores, drug houses, storage warehouses and ship fires, and great care should be taken to avoid putting water on anything that is not on fire when working at fires in this class of building or in ships.

Calcium carbide, when wet, is a substance that will create a dangerous and explosive gas and where possible water should not be put on it, nor should an open flame or light be brought near it.

(To be continued.)

## HANDLING GAS FIRES.

When gas is issuing from a main, gas pipe, meter, or elsewhere or takes fire, it should be shut off or the gas company notified immediately. If gas escaping from a pipe takes fire and the fire is endangering life and it cannot be shut off, the fire can be blown out with the force of a stream of water and the gas pipe then plugged up with soap or a round piece of wood.

When a gas main in the street is leaking or on fire and it cannot be shut off immediately, it should be smothered with dirt or sand. If there is a large opening in the pipe or main and the gas is escaping from it freely or is on fire and the flames are shooting up into the air, it can be stopped readily by filling wet bags with dirt or sand and throwing them on top of the opening and then filling in with dirt around them.

In all cases of gas leaks, whether there is fire or not, and especially unmanageable gas leaks, the gas company should be immediately notified.

Gas escaping from broken or defective pipes will often accumulate behind furrowed walls or other hollow space, suddenly ignite from a spark of fire coming in contact with it, and cause considerable damage, and for that reason firemen should never leave any premises where gas is escaping until the same is stopped, plugged, shut off, or made safe.

### Water on Hot Reservoirs.

When the steel or metal plates of a gasometer or gas reservoir are hot

from the heat of an adjacent fire, the air about the reservoir should be cooled with spraying streams of water and when it has been cooled the stream may be directed on the reservoir, but streams of water should not be put directly on a gas reservoir when its metal plates are extremely heated as they would be liable to warp, cause the collapse of the reservoir and disaster.

All firemen should know how to shut off gas, water and electricity when they are supplied to buildings or elsewhere, and know the general location of shut-off cocks or switches.

When water is escaping from a lead pipe and cannot be shut off in the regular way, the lead pipe can be hammered flat with the back of an axe and the leak stopped in that manner.

When gas escaping from a small service pipe has taken fire it can generally be extinguished and the leak stopped without the use of a stream by tying or wrapping a wet bag or cloth around the end of a broom and forcing it over the leak, after which it can be plugged up.

## FIRE LADDIES TO COMPETE.

Fire fighters of the Southern Minnesota Firemen's association will hold a tournament at New Richland, July 15 and 16.

Competitive ladder climbing and races will be featured and the committee in charge plans to bring in outside entertainments during the tournament.

## HOT ASHES AND CHICKENS

Dumping hot wood ashes in a chicken coop brought unexpected disaster to a Benton county farmer recently when the coop was completely destroyed and the fancy flock within was consigned to oblivion. This particular farmer only followed a common practice, but he is wiser now as to results.

Dumping wood ashes in chicken coops and around where chickens feed is regarded as perfectly proper, and by experts as helpful to the chickens. It was never intended, however, that the ashes should be hot or contain smouldering embers and this the Benton county farmer overlooked. A lively wind helped and presto—there was neither coop nor chickens.

In no case should ashes of recent origin be placed in a wooden building or near anything inflammable. Common sense would seem to make such impossible, yet it is an everyday happening.

Fire prevention is the science of making life and property safe against fire.

Many merchants do not seem to realize that the most expensive stock they carry is waste paper and rubbish.

An ounce of prevention is worth a pound of cure, with fire as well as any other evil, but not one man in a thousand acts on this principle.

## FIRE MARSHAL BULLETIN

**ARRESTS AND CONVICTIONS,  
1919.**

Sam Jackovich, Mike Vukovich and Bayo R. Roganovich, Crosby, Crow Wing County, indicted by the grand jury November 19th charged with setting fire to building owned by Sam Jackovich and occupied as rooming house by Mike Vukovich and Bayo R. Roganovich, August 29th. Since convicted and sentenced.

The case against Mr. and Mrs. Wachsmuth, Columbia Heights, Anoka County, arrested in attempting to burn dwelling at 3714-3716 University Avenue Northeast, dismissed.

Peter Eisenberg, Duluth, St. Louis County arrested January 20th, charged with the burning of his store at 1825 West Superior Street, on the morning of January 14th. Bound over to the grand jury and convicted March 18th. Eisenberg was sentenced to the state reformatory.

Roger Nelson, Johnsonville Township, Redwood County, confessed to setting fire which destroyed the home of his brother, W. Z. Nelson, March 10th. Adjudged insane by the Probate Judge and committed to the Asylum at St. Peter.

Severin Steiger, Kellogg, Wabasha County, arrested in 1918 on confession of having fired saloon of Steffes and Schouweiler, plead guilty February 3rd to attempt at arson, and was given a suspended sentence to the State Reformatory.

Meyer A. Markus, Marble, Itasca County, arrested on confession, December 16th, to setting fire to his store building December 15th. Markus plead guilty to arson, third degree, and on December 27th was sentenced to an indeterminate term at hard labor at the state penitentiary.

William H. Hyland, Douglas County, arrested early part of February on a charge of arson, third degree, in connection with the burning of his store, April 29, 1918. Indicted by the grand jury, but acquitted March 4th.

Halverson, Sandstone, Pine County, arrested April 16th, charged with firing the Commercial Hotel, April 6th. Evidence submitted to the grand jury, June 2nd. Jury failed to indict.

The case against Theodore Campbell, South St. Paul, Dakota County, dismissed, was re-opened January 7th, and an indictment brought in by the grand jury charging Campbell with arson, first degree, in connection with the fire of Laza Boldevitch, June 1, 1918. May 19th Campbell plead guilty to attempt to commit arson, and sentenced to the state penitentiary.

Maurice Giller, Thief River Falls, Pennington County, arrested February 24th, charged with being responsible for the burning of his store, January 7th. Giller was convicted by the jury, July 4th, on third degree arson and sentenced to the state penitentiary.

George Allen, Thief River Falls, Pennington County, arrested February 20th, charged with being an accomplice of Maurice Giller. No indictment returned.

Henry George, Winona, arrested upon confession made to W. C. Norton, chief of fire department, in connection with the Breitlow fire, April 25th; also other fires. Hearing before Probate Judge, April 29th, and pronounced insane. Committed to the Rochester Asylum.

Eddie Curran, indicted jointly with James Martin and Charles Wright, October 9th, 1917, in connection with a roadhouse fire which occurred in Fridley Township, Anoka County, arrested May 15th, upon his appearance at the East Side Police Station Minneapolis. James Martin died before brought to trial. Charles Wright is still a fugitive from justice. Case dismissed October 13th.

Frank Johnson, Minneapolis, arrested May 6th, on confession of having set fire to some empty box cars located at Franklin Avenue Southeast and Arthur Avenue. Arraigned on charge of arson. Case still pending.

Meyer Ettenberg, Minneapolis, convicted last year, charged with being responsible for fires at 208 Nicollet Avenue and 22 Hennepin Avenue, on January 11th, sentenced to the penitentiary for an indeterminate term. On May 9th, appealed to the Supreme Court. Since convicted and sentenced.

Herman Liss, deputy clerk of court, Minneapolis, and Albert H.

Hall attorney for Meyer Ettenberg, indicted jointly with Ettenberg, charged with bribing a witness to give false testimony. Liss was found guilty on February 15th, made motion for new trial, which was denied. On May 9th, appealed to the Supreme Court. No decision as yet rendered. Hall was tried on June 20th and found "not guilty" by the court.

A warrant was sworn out for the arrest of Cosmo Beaudette, Eagan Township, Dakota County, August 5th. Beaudette had previously confessed to firing dwelling June 21st, and barn, July 1st, owned by Jacob Eauthold, Jr. and occupied by himself. Beaudette disappeared and has never been apprehended.

**HOME FIRE EXTINGUISHERS.**

Where the commercial fire extinguisher is not available, particularly because of its cost, an exchange suggests empty bottles filled with water and common soda as a substitute. The suggestion is for rural communities and homes at a distance from the local fire station. However, it is not well to place too much reliance on such crude appliances. Bottles so filled do not always break when hurled at a fire and, further, when the contents are released it is not always effective. The best precaution is to remove the hazard and to exercise ordinary precaution. A real extinguisher, however, is worth every cent invested in it.

**FIRE LOSSES.  
Month of February, 1920.**

	No. of Fires	Value of Bldgs. and Contents	Damage to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	38	\$610,575	\$48,355	\$356,650
Minneapolis .....	90	3,819,550	129,960	1,522,265
Duluth .....	14	599,900	9,085	532,250
Outside Three Cities.....	105	1,125,830	169,298	542,975
Total .....	247	\$6,155,855	\$356,698	\$2,954,140

	No. of Fires	Value of Bldgs. and Contents	Damage to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	29	\$1,902,290	\$42,810	\$331,250
Minneapolis .....	65	1,997,450	163,893	1,666,050
Duluth .....	15	82,600	6,260	53,700
Outside Three Cities.....	59	474,335	181,803	269,225
Total .....	168	\$4,456,675	\$394,766	\$2,320,225

**BUILDINGS CONDEMNED.  
Month of February.**

Owner.	Location. St. Paul.	Kind of Bldg.
Theo. Hamm Brewing Co., Wm. T. Berry, North Michigan Land Co., Conrad O. Searle, Margaret Sallaback, Sarah L. Carpenter, George Trautman, John J. Coates, Ole Hoven, Northern Trustee Co.,	440 Sibley St., 170 W. Third St., 638 Lindon St., 143 Western Ave., 783 W. Seventh St., Sandstone, So. St. Paul, So. St. Paul, Crookston, Brainerd,	Storage Store Dwelling Dwelling Barn and Sheds Laundry Store Shacks Dwelling Lunch Room

## STATE OF MINNESOTA

## FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 130, State Capitol

No. 11

Saint Paul

April 15, 1920

## Spring Clean-up Campaign

**May 1st To May 8th  
For The Whole State Of Minnesota  
May Every Citizen Help**

**FOR THE MERCHANT:**—Make thorough inspection of your place of business. Remove all packing cases, barrels, rubbish and other inflammable material that may have accumulated in your basement or storeroom during the winter. This is for your safety as well as your neighbors'.

**FOR GENERAL MANAGERS** of industrial plants, shops and factories: For the safety of your employees and your plant, follow the same suggestions offered above.

**FOR THE HOUSEKEEPER:**—Clean house from garret to basement. Keep the home free from rubbish and other inflammable material that may catch fire or aid it in spreading.

**TO CITY AND VILLAGE OFFICIALS:**—Urge every citizen in your town to take part in this clean-up campaign.

**THE TIME**—May 1st to May 8th  
**PLACE**—Throughout Minnesota

FOR several years May 1st has been observed in many states in the Union as Clean-up Day. Minnesota has been one of the foremost to take part in this movement, which as usually been limited to one day. This year, however, in order to secure greater results, the campaign will be extended for a number of days running from May 1st to May 8th. It is hoped that this year the campaign will result in a thorough housecleaning of the state.

The object of the campaign is to educate to the minimum the fire hazard caused by the accumulation of rubbish and inflammable material that steadily collects in the home or place of business during the winter months. Rubbish heaps are responsible for many of our fires, especially in the home.

In order to make the clean-up effective, every city, town or hamlet in the state should select at least one

day during the clean-up period and make it the official clean-up day for that locality.

Town officials should take the initiative in arranging a suitable program for the day, urging every man, woman and child in the town to take an active interest in the work of freeing their town from the unnecessary fire hazards caused by accumulated rubbish and other unsafe conditions and the entire day given over to the interests of fire prevention and fire protection in an effort to make that town a better and safer one to live in. The best results would be obtained through a proclamation issued by the Mayor urging citizens to remove rubbish and worthless trash from their homes or places of business and then arranging to have it collected and disposed of at the expense of the town and under the direction of the local Fire Chief.

Fire prevention programs should

be carried out in the public schools, devoting some time to the discussion of the subject of fire prevention and a most appropriate way to end the activities of the day would be to arrange for a public fire prevention meeting to be held in the town hall or one of the local theatres. This might prove to be of greater value if held on the eve of the day to be observed in cleaning up as it might tend to impress those attending of the great importance of taking part in the campaign.

If it is felt that a more extensive campaign should be carried out, the following program is suggested. This may be modified or added to as local conditions demand.

**SUGGESTED PROGRAM.****SATURDAY, MAY 1:**

Morning, issuance of proclamation. Night, mass meeting and organization of a clean-up fire prevention committee with strong sub-committees.

**SUNDAY, MAY 2:**

Fire prevention talk or sermon in every church in the municipality. Also talks in the Sunday schools.

**MONDAY, MAY 3:**

School day. Inspection of all schools. Fire drill in all schools. Have teachers explain to all pupils what a clean-up means, not only to them, but to the entire community. If possible, give out home inspection cards to be filled out by the children, so that actual home conditions can be arrived at. Address to the children by the fire chief or some of his men.

Night meeting of Fire Prevention Committee. Reports of sub-committees on ways and means, women's club, housewives' section, boy scouts, schools, the clergy, etc.

**TUESDAY, MAY 4:**

Inspection of town starts. Exhibition at noon by the fire department.

**WEDNESDAY, MAY 5:**

Inspection continued.

**THURSDAY, MAY 6:**

Inspection continued.

**FRIDAY, MAY 7:**

Inspection and tabulation of inspection work.

**SATURDAY, MAY 8:**

Fire prevention luncheon by Chamber of Commerce or Board of Trade.

(Continued on Page 4)

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330 State Capitol  
St. Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

ST. PAUL APR. 15, 1920

The Bulletin will be mailed to any address regularly upon request

**THE STANDARDIZATION OF THREADS FOR FIRE HOSE COUPLINGS AND FITTINGS.**

With the general modernizing of fire fighting facilities throughout the country and the motorizing by many communities of fire apparatus owned by them, thus annihilating distance in answering neighboring call for help, has come a new problem.

**UNIFORMITY IN THE MATTER OF COUPLINGS USED IN MAKING HOSE AND WATER CONNECTIONS.**

Calls from fire menaced towns and villages menaced by fire are not infrequent and yet how many departments know that when answering such appeals that they will find themselves and their apparatus in shape to give the assistance demanded. Are their hose couplings the same? Will the hose coupling and fire hydrant threads fit? The subject is one for serious consideration.

For more than half a century the advantages to be gained from the use of uniform fire hose and coupling threads has been generally recognized, but to the shame of those concerned it has received scant attention. Because of its lack, history records the great Boston fire of 1872 and the Augusta conflagration of as late date as 1916. In both and in fact in many other big fires not here recorded valuable outside aid was available, but the absence of standardization was fatal in each case and the answering apparatus was made helpless as a result.

On the authority of those who know, less than fifty per cent of the fire hydrants in Minnesota are standard as to threads and the same applies to couplings. This is a serious indictment of the lack of indifference against those responsible for such conditions.

However, Minnesota is not alone in this respect. The indictment is general. So serious is this lack of uniformity that the subject has been given special consideration by the Committee on Fire Prevention and Engineering Standards of the National Board of Fire Underwriters and, after thoroughly investigating the matter and determining the needs, the National Board has directed and caused to be perfected a set of tools for the standardization of fire hose threads.

The State Fire Marshal Department wishes to encourage the adoption of uniform couplings throughout Minnesota. Mr. Walter I. Fisher,

Manager of the General Inspection Company of Minneapolis is co-operating with the National Board in the interests of this movement and has already secured the use of these tools for several cities in the state which wish to make the change in their couplings.

The Fire Marshal Department will co-operate with the National Board and the General Inspection Company in every way possible and will lend every assistance to city and town officials throughout the state in an effort to make it possible to have these tools available for their service in making such alterations as might be necessary.

**Fire Hazards on The Farm; The Electrical Hazard Which is Rapidly Increasing**

*There is an old saying that "An Ounce of Prevention Is Worth a Pound of Cure," out of which has developed a slogan applicable to fire waste "An Ounce of Fire Prevention Is Worth a Fire Brigade." The State Fire Marshal aims to co-operate with every agency that is in any way interested in stopping the needless fire waste which annually destroys millions of dollars worth of property belonging to the citizens of Minnesota. No class of Companies insuring against fire have experienced the low loss ratio that Township Mutuals have. It is obvious that everyone interested in this class of insurance would have this record continued. It is urged that officers of every Township Mutual Fire Insurance Company give careful consideration to the subject dealt with in this article with the object of keeping this fire hazard under control.*

THE rapidly increasing fire hazard caused by the use of electricity becoming more common may in the course of a few years result in more fires on the farm than any other cause, unless immediate action is taken to hold it under control.

A review of the statistics on electrical fires for the past several years convinces one that there is cause for alarm.

During 1916 the total fire loss for the United States was \$208,706,362; \$16,559,433 or 7.9% was attributed to electricity. In 1917 our total fire losses were \$231,628,040. That year the known electrical fires increased in an even greater degree, reaching \$19,885,522 or 8.6% of the whole. In the last year on which figures are available, that of 1918, the total fire loss was \$283,103,101

and of this \$20,780,307 or 7.3% was caused by electric current.

That these figures are very conservative is indicated by the fact that many fires ascribed to "unknown causes" and not charged to electricity were possibly or probably due to electrical defects.

Recently it has come to our attention that the use of electricity will become a great deal more common on farms of Minnesota within the next year for in two cases the State Fire Marshal has been advised by concerns engaged in installing electrical equipment that they hold contracts for the installation of electric wiring on about 150 different farms, the nature of which will be the installation of electric wires and fixtures in the homes and installing of electric motors in barns or granaries to be used for power. This work is to be done in rural districts where high voltage lines pass through from power stations to towns.

There are undoubtedly many other communities in the state where similar work will be done, possibly resulting in furnishing hundreds of farms with electric light and power.

It is not the intention to discourage the progress of this work in any way for, when properly installed and regulated, it is one of the safest means of supplying artificial light and power. However, what the department does wish to emphasize is that a serious fire hazard may be created through poor installation of such equipment and it is especially urged that the owner of every farm who contemplates the making of such improvements make sure that the concern that he contracts with for this work be one who understands and is qualified to make the installation in accordance with the National Electrical Code.

# MINNESOTA STATE FIRE COLLEGE

THE EIGHTH OF A SERIES OF ARTICLES GIVING AN ACCOUNT OF THE FIRE COLLEGE HELD IN ST. PAUL SEPTEMBER 22 TO 26 UNDER THE DIRECTION OF THE STATE FIRE MARSHAL.

THE FIRST ARTICLE APPEARED IN BULLETIN NO. 4.

## "FIRE DEPARTMENT RESCUE WORK"

By LEON L. WOLF  
Instructor

### LESSON VIII.

#### DUTIES OF FIREMEN ON FIRE GROUNDS.

The general duties of truck companies or truckmen at fires are opening up or ventilating a building or parts of a building, vessel or premises, the pulling down of ceilings and partitions, cutting up of floors, the raising and placing of ladders, rescuing persons in danger and assisting engine companies with lines of hose.

The first and most important duty of truck companies or truckmen at fires is the saving of life when it may be endangered. The next important duty is that of quick opening up or ventilation.

By opening up or ventilation is meant the opening of windows, doors, flooring, skylights, roofs, iron shutters, iron gratings, vault covers, deadlights, etc., with as little damage and as quickly as possible for the purpose of letting the heat, smoke and gases from a fire escape, and allow the engine or engine companies present to enter the building, vessel or premises with their lines of hose, unhampered or with less difficulty.

#### NO OPENINGS BEFORE READY FOR ACTION.

Quick ventilation at a fire where heat, smoke fumes or gases are confined is very important when an engine company or companies are present and ready for work or there are other means provided with which to extinguish the fire. But no door, window, or other parts of a building, vessel or premises in which there is fire should be opened when it would have a tendency to spread the fire or endanger life or when there is no engine company present or no water or other means with which to extinguish the fire.

By quickly ventilating a building, truckmen make it much easier for pipemen when entering such places to advance with the pipe and extinguish the fire with a great deal less danger from heat, smoke and gases, and less damage by water.

Good ventilation often depends on the condition of the atmosphere or the direction of the wind at the time of the fire. On damp or foggy days or nights smoke will not rise as quickly as on clear days or nights. The direction in which the wind is blowing has also to be considered

when ventilating a building or premises and fighting a fire. At times smoke will roll in volumes out of the front of a building on fire, leaving the rear almost clear; at other times it will be just the reverse and sometimes it will roll out in all directions.

#### EFFECT OF WIND.

Officers in charge at fires should always take notice in which direction the wind and smoke are blowing and act accordingly in extinguishing the fire.

The following rules should invariably be adhered to when ventilating a building, vessel or other place on fire:

Do not break doors or windows when they can be readily opened or removed without breaking them.

Do not break skylights when they can be readily opened or removed without breaking them.

Do not break deadlights, vault-lights, etc., when they can be readily opened or removed without breaking them.

Do not do any more damage to a building, vessel or other place or their contents or other property than is absolutely necessary in extinguishing the fire.

The fire insurance patrolmen often render valuable service in saving lives and property at fires and they have often by promptness and good work prevented fires from extending; they should, whenever possible, be given consideration and assistance at fires.

Hook and ladder trucks should never be brought in front of a building on fire or hydrant, or so as to obstruct engine or hose companies from stretching in their lines of hose unless it is necessary to use their aerial ladders or for other necessary purposes.

When two truck companies respond to a fire on the first alarm, the first due or the first to arrive should invariably be directed to open up the doors or other parts of the building or place so that the engine company or companies present may enter quickly and get a stream of water on the fire. The second truck company due or the second to arrive should invariably be directed to open up or ventilate the building above the fire. When life is in danger and when for other reasons the foregoing cannot always be adhered to, the reverse direction of the companies is sometimes necessary.

#### KEEPING VERTICAL OPENINGS CLOSED.

No set of rules can be made for rescuing or saving life at fires as the circumstances of each case must be

considered, such as the location of the person in danger, the progress of the fire and the number of firemen and means at hand with which to perform the rescue.

When fire is coming up an inside cellar stairway or from any other place the door of the same should be shut and kept shut until the engine or hose company present has its line charged or until there is water or some other means provided with which to extinguish the fire. If the heat, smoke or flame coming up or out of the open door makes it impossible to approach the door and close it by hand it can be done with a hook or axe.

If the door is entirely off its hinges or the fire is burning through and there is no immediate means with which to extinguish the fire, a door should immediately be taken off some other part of the building and placed against the opening or burning door and kept there with a hook or axe pressed against it until means is provided with which to extinguish the fire.

(To be continued.)

#### HELP WANTED—MALE OR FEMALE

WANTED—Assistance in reducing the fire hazard in your home or place of business.

WANTED—Men and women who will take an interest in the fight against unnecessary fire waste.

WANTED—Men and women who will insist that the lives of school children be safeguarded from fire.

WANTED—A Fire Prevention Committee in every civic and social organization in the state.

WANTED—Suggestions for improving this bulletin.

#### PROFESSIONAL OR LAYMEN

WANTED—Architects and contractors to urge fire resistive construction of buildings.

WANTED—Men, city officials, who will feel their moral responsibility in rendering school buildings safe for our children regardless of the requirements of the law.

WANTED—Wide-awake public officials who will recognize fire hazards in school buildings.

WANTED—Subscribers to this bulletin. Mailed free to any address each month.

#### DOMESTIC

WANTED—Housekeepers who will not clean with gasoline in the home.

WANTED—Housekeepers who will not use oil in starting fires.

WANTED—Friendly criticism of the work of the Fire Marshal Department, and suggestions as to how it may render a more valuable service to the people of the State of Minnesota.

WANTED—Housekeepers and housemaids who will exercise care in the use of electrical appliances.

# Spring Clean-up Campaign

(Continued from page one)

## Last general inspection.

Final reports and mass meeting at night. Mayor reports "Our Town Safe!"

## CLEAN-UP SUGGESTIONS

Let the women, the boy and girl scouts and the children handle home inspections.

Work of inspecting manufacturing plants, offices, public buildings, churches and schools should be done by the Fire Chief, members of Fire Department and local Fire Prevention Committee.

Rubbish should be burned under direction of the fire chief.

Bale waste paper. It is worth money. Old iron, metals, discarded furniture, etc., all have a value.

Do not burn anything that can be converted into cash.

Whitewash is a good fire retardant and makes an unsightly fence look respectable.

Every available space that will grow things should be put into vegetables. Every vegetable that matures is that much off the high cost of living.

After you have cleaned up your premises, help your neighbor. He may not know how.

A bushel of potatoes is a bigger asset to a family than an ash pile.

Examine into the town's water supply. Is it equal to a conflagration test?

After you have cleaned your town up, keep it clean!

## SOURCES OF AID

Any or all of the following allies can be called into action during the spring campaign: Local fire prevention committee, fire chief and members of fire department, city and county officials, business men's organizations, commercial clubs, chamber of commerce and boards of trade, the clergy, schools and teachers, women's clubs and organizations, labor and factory organizations, boy and girl scouts, Sunday school teachers and superintendents, doctors, bankers, building and loan people, paint and hardware men, seeds men, druggists, wall paper dealers, tanners, plumbers, carpenters, masons, hotel men, the street, interurban and steam railways, the good roads people, police, health department, in fact every one in town has some interest or can aid in some manner in a clean-up.

## SAMPLE SCHOOL PROGRAM

Be sure and invite the parents and relatives of the children to this meeting.

Music—"The Star Spangled Banner"

Address by the school superintendent on "What Fire Prevention Is,"

Essay—"Why Our Town Should Be Clean" by a pupil.

There might be prizes offered and an essay contest conducted to stimulate interest.

Talk to the children by the fire chief.

Remarks by teachers and parents.

Essay—"What I Would Do in Case Our House Caught Fire."

Essay—"The Common Fire Dangers of the Home."

Giving out of questionnaires.

Song—"America."

## TABLOID QUESTIONNAIRE

This blank can be added to or reduced as the case may be to suit local conditions, and is meant now for the smaller municipalities:

Name of school.....

Name of teacher.....

Name of pupil.....

Location of home..... (street, etc.)

Do you burn coal, gas or wood?.....

Are your chimneys clean and in good repair?..... Are the roofs in good repair and free from curled up shingles?..... Any inflammable rubbish in garret, cellar, room, barn, garage or outbuilding?..... If so, where is it located?..... Are your floors protected from the stoves by metal mats or other non-inflammable material?..... Are furnaces, or stove-pipes in contact with joist, walls, floors or other wood?..... If you burn gas, have you any rubber tube connections?..... If so, where are they located?..... Where do you keep the coal oil can?.....

Where do you keep the gasoline can?..... Are there any paints or oils of any kind in the house?..... Where are they kept?..... Do you have an oil mop?..... Where kept?..... Is it in a tight covered can?..... Any flue holes stopped with rags or hidden by wall paper or pictures?.....

Have you fire buckets, fire extinguishers, garden hose, or other means of protection from fire?..... Do you have fire drills at home so you would know what to do at night if fire broke out?..... Are halls clear of chairs and stairways free from obstructions?..... Do all the windows in the house open easily?.....

Do you use electric irons or cooking utensils of any kind?..... If there are electric wires in the house did an expert put them in?..... Have you a telephone?..... Do you know how to get the fire department in case of fire?..... Can you turn in a box fire alarm?..... Where is your nearest fire alarm box located?.....

Do you tell your parents what you have learned about Fire Prevention at school?..... Do you talk it over at night?..... Where do you keep your matches, and what kind do you use?..... Do you have oily rags in house, or garage, and where are they kept? .....

Other questions could also be

asked. These questionnaires can be turned over to the general committee for their guidance. What you want to find out from the questionnaire is, "What hazards have we in our homes in this town."

## SCOUTS PROGRAM

Perhaps you have a boy or girl scout troop in your town. If so, you have a powerful ally. The scouts can materially assist the women and the school children in home inspection work. In fact, these two organizations are good anywhere you put them. Here is a suggested program:

Parade of scouts headed by band or drum corps.

Exhibition of scout fire drill work. First aid exhibition. Rescue work, etc.

Address by Scout Master on "How to Make a Home Inspection," or on some other suitable topic.

## EMPLOYER AND EMPLOYEE

Meet at plant at noon. If possible, serve luncheon.

Talk by owner or manager on "What Fire Prevention in This Plant Means to Me."

Talk by plant fire chief or some foreman on "What Fire Prevention in This Plant Means to Us."

Pledge between employee and employer.

"Let no careless act of ours make this plant a blackened ruin!"

Exhibition of plant fire department or fire fighting unit.

Song, "America," all standing.

## MASS MEETING PROGRAM

Call to order by the mayor.

Invocation.

Song, "The Star Spangled Banner."

Address by some good speaker on "Why This Mass Meeting Is Called."

Address by fire chief, "Our Fires in This Town and How They Can Be Prevented."

Address by insurance man on "What Makes the Rate."

Address by some prominent business man on "Our Town's Needs and How to Meet Them."

Organization of a strong fire prevention clean-up committee.

Other topics and thoughts will suggest themselves for this meeting.

## PINT OF "GAS" HAS NINE MILLION POUND PUNCH.

Gasoline is wonderful stuff. The genie that came out of the bottle in the Arabian Nights story, became, when liberated, a monstrous power.

The energy stored in a pint of "gas" is hardly less stupendous.

One pint of gasoline represents 12,000 "B. T. U.'s" of energy. A "B. T. U." (short for British thermal unit) will lift 750 pounds one foot.

Thus there is in that single pint of innocent-looking fluid enough power to lift six tons 750 feet into the air—that is to say, 200 feet higher than the top of the Washington monument.

**MORAL**—Use dynamite for cleaning purposes, it's safer.

614.04  
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# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 12

Saint Paul

May 15, 1920

## State of Minnesota

UNIVERSITY OF ILLINOIS LIBRARY

GEORGE H. NETTLETON  
FIRE MARSHAL

OFFICE OF FIRE MARSHAL  
STATE CAPITOL  
ST. PAUL

JUL 16 1920

### TO OUR AIDS

The Editors of Minnesota,  
The City Officials of Minnesota,  
The Fire Chiefs of Minnesota,  
Chairmen and Members of Fire Prevention Committees,  
The Boy Scouts of Minnesota,  
The School Authorities of Minnesota,  
The School Teachers of Minnesota  
And the School Children of Minnesota.

We wish to take this opportunity of extending our hearty appreciation for your aid in making the spring clean-up campaign a success. The efforts have been productive of much good.

In many parts of the state the work is still in progress and it is hoped that it will continue as long as a single fire hazard exists. That means that the good work must be carried on throughout the year; that we must be constantly on the alert for things that may cause fire and destroy life and property and when observed endeavor to cause their correction. And so to this end we seek your co-operation, asking that each of you continue to work hand in hand, shoulder to shoulder, day after day throughout the year in an effort to rid our state of the things that cause needless fires and unnecessary waste,

Yours in the Interest of Fire Prevention,

  
George H. Nettleton  
State Fire Marshal

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330 State Capitol  
St. Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

ST. PAUL, MAY 15, 1920

The Bulletin will be mailed to any address regularly upon request

**MINNESOTA FIRE COLLEGE TO BE REPEATED.**

The Minnesota State Fire College, inaugurated last year under the auspices of the State Fire Marshal's department, which proved to be a success, will be repeated this year and on a more elaborate scale. The time, place and the program will be announced later.

The idea of the Fire Marshal's department is to make the College an annual institution and its success in this respect is assured as already many fire officials and firemen are making preparations to attend.

Arrangements are being made to broaden the scope of the Fire College this year, adding many new features to the course and, if the tentative plans are carried out, there will be two classes instead of one, one for those who did not have the opportunity to attend last year and the second class to take up the new work.

As a result of the success of the first Minnesota Fire College, other states contemplate following Minnesota's plan of instructing firemen in modern methods of fire fighting. Only those who had the privilege of attending last year can appreciate the value of this work and it is hoped that every man who did attend last year will boost the college at every opportunity and help make this year's bigger and better than ever.

**THE MORRIS FIRE PREVENTION MEETING.**

On May 11th a fire prevention meeting was held at Morris, Minnesota, arrangements for which were made by Mayor Goenty, Fire Chief Max Trantow and the Morris Fire Prevention Committee. The members of the Conservation and Fire Prevention Association of Minnesota and representatives of the State Fire Marshal's office co-operated with the local authorities and during the day made a general inspection of the business section of the town, the schools and other public buildings, and the fire department equipment.

A night meeting was held at the

Commercial Club, which was well attended by the City Officers and business men of Morris. The findings of the inspectors were reported at this meeting, which was followed by an open discussion on the subject of fire prevention and how conditions could be improved in Morris, after which the meeting adjourned to the Orpheum Theatre where moving pictures of the work of the Minnesota Fire College and other films dealing with the subject of fire prevention were shown.

Similar meetings have been held in other towns in the state and one will be held at Madison on May 25th. These meetings have been most successful, proving to stimulate interest along fire prevention lines. Other towns in the state desiring to hold similar meetings may make arrangements for the same by communicating with the State Fire Marshal, who will assist in every way possible in matters pertaining to fire prevention and fire protection.

**SUGGESTED FIRE ORDINANCE FOR SMALL MUNICIPALITIES**

*Compiled by the National Board of Fire Underwriters and endorsed and adopted by the Minnesota State Fire Marshal's Department as a standard for small towns and villages.*

*Because of its length, the code will be published in a series of installments.*

**T**HIS suggested ordinance providing for fire limits and the construction and equipment of buildings is an abbreviation of modern requirements representing best practice in building construction. It has been compiled with special reference to the necessities of small towns. It is designed to arrest present hazardous practices and to serve as a reasonable regulation of ordinary building construction in communities where congestion of values is not abnormal. The first installment appeared in Bulletin No. 7.

**ORDINANCE PROVIDING FOR FIRE LIMITS, AND THE CONSTRUCTION AND EQUIPMENT OF BUILDINGS IN SMALL TOWNS AND VILLAGES.**

**ARTICLE FOUR.**

**Section 13. Skylights over Stairway and Elevator Shafts.**—Where a stairway, elevator, or dumb-waiter shaft extends through the roof and is covered by a skylight, the skylight shall be constructed with incombustible frame and sash, glazed with ordinary thin glass, and shall be protected by a galvanized steel wire screen with a mesh not exceeding one inch, and the wire not smaller than No. 12 gauge. The screen shall have metal supports and shall be placed not less than 6 inches above the skylight. Instead of a skylight, a window may be placed in the side of the shaft above the roof which is furthest removed from a property line. The window shall have incombustible frame and sash, and be glazed with thin glass.

**Section 14. Floor Lights.**—Except in dwellings, all openings hereafter made in floors for the transmission of light to floors below, shall be covered with glass set in metal frames and bars. The glass shall be not less than 3-4 inch in thickness, and if any glass measures more than 16 square inches there shall be a rigid wire mesh either in the glass or under it.

**Section 15. Light, Vent and Dumb-waiter Shafts.**—In every building hereafter erected or altered,

except frame buildings, all walls or partitions forming interior light or vent shafts shall be built in accordance with the requirements for stair and elevator shafts in new buildings as specified in Section 12. The walls of dumb-waiter shafts, except those in dwellings which extend only one story above the basement or cellar, shall be of fire-resistive construction, and shall be not less than 3 inches thick if constructed of brick, hollow or solid partition blocks, or of steel studding and metal lath with 3-4 inch of Portland cement plaster on each side; or a 2 inch solid metal lath and Portland cement plaster wall may be permitted, if securely anchored at each floor. The material and method of construction to be as specified for stair and elevator shafts in existing buildings in Section 12.

In frame buildings outside the fire limits the enclosure partitions of all such shafts may be constructed as provided in Section 12 for stair and elevator shafts in existing buildings.

Where a dumb-waiter shaft does not extend through the roof, the top of the shaft shall be of fire-resistive construction of the same thickness as the walls of the shaft.

All openings in dumb-waiter shafts shall be protected by fire doors mounted in incombustible frames securely anchored to the walls.

The walls of all light and vent shafts hereafter erected shall extend not less than 3 feet above the roof level, except that when a shaft is covered by an incombustible ventilating skylight the walls need not extend more than 2 feet above the roof. Masonry walls shall be properly coped.

When metal louvres are used for ventilating purposes, the louvres or slats shall be riveted to the metal frame.

**Section 16. Roof Covering.**—Every building hereafter erected within the corporate limits shall have an incombustible roof covering, and no existing wooden shingle roof, if damaged more than 25 per cent, shall be renewed or repaired with other than incombustible roof covering.

(To be Continued)

# MINNESOTA STATE FIRE COLLEGE

THE NINTH OF A SERIES OF ARTICLES GIVING AN ACCOUNT OF THE FIRE COLLEGE HELD IN ST. PAUL SEPTEMBER 22 TO 26 UNDER THE DIRECTION OF THE STATE FIRE MARSHAL.

THE FIRST ARTICLE APPEARED IN BULLETIN NO. 4.

## "FIRE DEPARTMENT RESCUE WORK"

By LEON L. WOLF  
Instructor

### LESSON IX.

#### DANGERS TO BE AVOIDED BY FIREMEN.

When entering a building or other place that is charged with smoke or is in darkness, firemen should try to remember the direction by which they entered and the different doorways they passed through so as to know the exit in case of need.

If a line of hose is stretched when entering a building it can generally be followed out in case of necessity.

When entering a dark or smoke charged building or place, firemen should always feel their way in front of them to guard against falling or walking into well holes, trap doors, elevator shafts, hoistways or similar places. The same precaution should be taken when on a roof to avoid walking off the roof or into open shafts. When there is snow on a roof, care should be taken to avoid walking into skylights that are on a level with the roof and covered with snow.

When a building or part of a building becomes heavily charged with smoke, heat and gases, backdraughts will sometimes occur which will drive firemen working within away from the fire or out of the building. These backdraughts come from various causes and when firemen see, feel or suspect the coming of a backdraught while working at a fire they should keep as close to the floor as possible to avoid the full impact of it. Backdraughts generally come suddenly and only last a few seconds. Some of their causes are as follows:

Smoke, heat and gases accumulating in a building or part of a building, arise rapidly, and finding no outlet above, rush back to the first outlet below.

The gas accumulating from fire becoming suddenly ignited.

The opening of a window or door above the fire which causes an inward draught of air.

The opening of pipes or nozzles or streams directed from opposite directions.

#### Collision Dangers.

Firemen should avoid following too closely one piece of apparatus with another when proceeding to or returning from alarms of fire; there should be at least one hundred feet

between each piece.

They should also avoid getting caught between the apparatus and other vehicles or obstacles while going to or returning from alarms by keeping always a sharp lookout for collisions, especially when putting on their coats, hats or boots.

When firemen are working in courts or alleys at fires of any magnitude, they should, if possible, provide means of escape beforehand by having the doors or windows of the building opposite the fire so opened that they may be readily entered in case a wall threatens to fall.

The officer in charge at a fire of any magnitude should, where possible, always guard against firemen being injured by falling walls, by stationing competent officers or firemen on the roof of adjoining buildings or at such positions on the sidewalk, street or elsewhere that they will be able to detect any deviation of such walls from their plumb line or any other danger that may be noticed, and give warning to those in danger.

When explosions occur which throw walls, firemen cannot always receive warning in time, and for that reason they should be on the alert and provide a means of escape in case of any threatened danger.

#### When Are Walls Dangerous?

Walls may be considered dangerous when cracks appear in them, when they lose their plumb line, sway to and fro, when the fire within a building renders it impossible to enter or when the posts, columns, girders, floor beams or other inside supports or ties have been burned away, or are out of plumb or missing, or where the floors are sagged and the walls bulged out, or where the foundations are undermined by water or when there is heavy machinery or other heavy articles, material, or substances on badly burned floors.

When firemen are cutting out window frames there is danger of the stone lintels above the frames or the stone sills below becoming loosened and falling out.

When there is considerable baled material such as cotton, paper, wool, hay, straw, jute, oakum, hemp, rags, etc., on badly burned floors and the same is soaked with water there is danger of the floors or building falling from overweight or from bulging of the walls by expansion of the water-soaked material.

Firemen should avoid, when possible, walking or standing under elevator or other shafts when fire is in the upper part of a building, and especially when the fire is around the

drum cables of an elevator cage, as the cables will often snap from the heat of the fire and cause the cage to fall.

#### Use Ladder Over Stairway.

Firemen should avoid overcrowding on a badly burned stairway, especially when the stair supports or fastenings have been loosened or burned away; in such cases a ladder should be placed on top of the stairway and used to ascend or descend by.

Firemen should avoid holding the metal nozzle when directing a stream where there are electric wires or electric appliances that would be liable to cause an electric shock. In such cases the hose back of the nozzle should be taken hold of and rubber gloves worn.

Firemen should avoid explosions of gas by not taking lanterns or open lights in or near places where gas is escaping or the same has accumulated.

Firemen should avoid spreading the legs apart when lifting a heavy weight, as by so doing rupture is often caused; when lifting a heavy weight the feet should be placed near or close together.

Firemen should avoid ascending or descending ladders until they are properly placed and secured.

Firemen should change their wet clothes for dry ones as soon as possible after returning from an alarm of fire.

(To be continued.)

#### CONVENTION OF FIREMEN'S ASSOCIATION.

The annual convention of the Minnesota Firemen's Association will be held at Moorhead June 15 and 16 and the attendance, according to those in charge, promises to be the largest in the history of the organization. A program of unusual interest to fire suppression and prevention officials and firemen generally is being prepared. It is hoped that every fire department in the state will be represented.

Moorhead, the convention city, is making big preparations for the gathering and the delegates can expect a royal time. There will be fire drills, a parade and other things of interest to the fraternity.

Arrangements have been made for the State Fire Marshal's Department to show the moving pictures taken at the Minnesota Fire College and also other fire prevention pictures. The Department is endeavoring to aid in every way possible to make the meeting a success.

## FIRE MARSHAL BULLETIN

## DANGER IN GRASS FIRES.

This is the time for grass fires. A number of causes may start them—smokers, automobile joy parties, locomotive sparks, flying embers from burning brush, etc.

It is well, especially in property situated around railway rights of way and in suburban districts to see that no dead grass or weeds endanger fences, outbuildings, elevators, houses, railway stations and other buildings.

In case of a fire that does not for the time being, seem to be coming your way, it is well to watch it, for there are sudden changes of air currents, sparks carry far, and a grass fire runs like a scared rabbit.

Fire has to have something to feed on. If there is no "food" there can be no fire; therefore by keeping dead herbage away from property the danger of destruction is held negligible.

## DANGEROUS PRACTICES.

One of the great causes of automobile fires is the practice of careless owners or chauffeurs in filling the gasoline tank while the motor is running. This is a most dangerous habit, and all owners of automobiles or other motor vehicles should prohibit their employees from indulging in this practice. For the individual who has never had the matter brought to his attention, there may be an excuse, but with the garage man, who knows the danger, there is none. A lighted cigar or cigarette is also a mighty dangerous proposition to have near the tank while it is being filled, and yet thousands daily take the chance.

## JOIN THE BRIGADE.

Clean streets, alleys, yards, and houses prevent fires and disease, and are always a source of civic pride, while dirt and filth speak ill of citizenship and home pride. Join the fire prevention brigade—clean up.

## JUST A MISTAKE.

Mistaking a gasoline container for one holding kerosene is not uncommon. Frequent reports covering such mistakes are received by the state fire marshal's department. Only the other day \$700 went up in smoke as the result of this all but too common mistake. The place was Cottonwood, and the property a dwelling house. Hastening a reluctant kitchen fire was the contributing cause. At Boy River, a similar mistake cost \$1,100.

## BUILDINGS CONDEMNED DURING MARCH AND APRIL.

	St. Paul,		
Win. Eberspacher,	521 Dayon Ave.,	Vacant Bldg.	
Anna Oreck,	31 Tilton St.,	Vacant Bldg.	
Summit Holding Co.,	172 E. 7th St.,	Saloon	
Theo. Hamm Brewing Co.,	150-52 E. 4th St.,	Vacant Bldg.	
Myers Rosenstein,	427-29 Case St.,	Dwelling	
Renz Estate,	543 W. 7th St.,	Barn	
W. R. & B. K. Edwards,	35 Lyton Place,	Store	
Stean Mark,	786 Rice St.,	Blacksmith shop	
Otto I. Brack,	190 King St.,	Dwelling	
Urban Investment Co.,	596 Lafayette Ave.,	Dwelling	
	Minneapolis		
J. M. Bluntack,	324 8th Ave., NE.,	Dwelling	
B. Cohn,	618 Bryant Ave. N.,	Barn	
F. I. Salter Co.,	Duluth		
Dickerman Investment Co.,	27 Sutpin St.,	Dwelling	
J. Altman,	126-32 Mich. St.,	Storage	
Fred Hjermstad,	1121-23 W. Mich. St.,	Store	
G. L. Murphy,	New Duluth,	Hotel	
H. C. Fulton,	1125-27 W. Mich. St.,	Store	
A. J. Harker,	533 E. Superior St.,	Paint Shop	
Ole Solem,	409 1/2 E. 4th St.,	Barn	
Mrs. Angelica Summers,	603 E. Superior St.,	Blacksmith shop	
Massachusetts Real Estate Co.,	601 E. Superior St.,	Store & Dwelling	
Booth Fisheries Co.,	405-7 E. 4th St.,	Barn	
P. W. La Panta,	Morse St. & Bay Front,	Warehouse	
Fred Downes,	1125 W. Michigan St.,	Barn	
Peterson Bros.,	813 W. 59th Ave. W.,	Barn	
Oriental Investment Co.,	Hawley,	Saloon	
Sam Levy,	Proctor,	Shed	
G. Gilbertson,	Wells,	Barn	
W. S. Campbell,	Ada,	Hotel	
H. M. Hicks,	Stephen,	Store	
Nick Skeie,	Thief River Falls,	Dwelling & Barn	
Gopher Real Estate Co.,	St. Hilaire,	Ice House	
B. B. H. Johnson,	Bemidji,	Dwelling	
Mrs. Susanna Carson,	Bemidji,	Laundry	
C. M. Bacon.	Bemidji,	Repair Shop	
Henry Stechman,	Bemidji,	Store	
Mary F. Street,	Bemidji,	Office	
City of Bemidji,	Bemidji,	Fire Hall	
Salvation Army,	Bemidji,	Barber Shop	
Frank Dewey,	Bemidji,	Hotel	
James Kemp,	Bemidji,	Shack	
Frank Dewey,	Bemidji,	Salvation Army	

## TOTAL LOSSES FOR MONTH OF MARCH, 1920.

No. of Fires	Value of Bldgs. and Contents	Damage to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	\$663,350	\$86,690	\$558,800
Minneapolis . . . . .	1,117,650	95,799	765,000
Duluth . . . . .	144,250	15,066	85,500
Outside Three Cities. . . . .	1,329,229	575,851	742,125
Total . . . . .	\$3,254,479	\$773,406	\$2,151,125

## MARCH, 1919.

No. of Fires	Value of Bldgs. and Contents	Damage to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	\$795,450	\$16,790	\$403,000
Minneapolis . . . . .	5,148,800	133,785	2,840,328
Duluth . . . . .	30,850	7,825	20,800
Outside Three Cities. . . . .	389,160	145,225	204,825
Total . . . . .	\$6,364,260	\$303,625	\$3,468,953

## Minnesota Firemen's Association Convention

MOORHEAD, MINNESOTA, JUNE 15 AND 16. PLANS ARE BEING MADE TO MAKE THE GATHERING THE BIGGEST IN THE HISTORY OF THE ORGANIZATION. EVERY FIRE DEPARTMENT IN THE STATE SHOULD BE REPRESENTED. :: ::

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JULY 9 1920

# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 13

Saint Paul

June 15, 1920

## Hose Thread Standardization

MOORHEAD HAS THE DISTINCTION OF BEING THE FIRST CITY IN THE STATE TO ADOPT THE NATIONAL STANDARD HOSE THREAD WITH THE USE OF THE TOOLS PERFECTED THROUGH THE EFFORTS OF THE NATIONAL BOARD OF FIRE UNDERWRITERS.

THE WORK WAS STARTED ON MAY 19 UNDER THE SUPERVISION OF E. R. TOWNSEND, ENGINEER WESTERN ENGINEERING BUREAU, CHICAGO. MR. TOWNSEND WAS ASSISTED BY R. L. DANIEL OF THE GENERAL INSPECTION COMPANY, WHO WILL CO-OPERATE WITH THE STATE FIRE MARSHAL'S OFFICE IN FORWARDING THE MOVEMENT THROUGHOUT THE STATE.



Chief Remley of the Moorhead Fire Department in the act of re-threading the first coupling under the standardization program being promoted in Minnesota. Reading from left to right: Chief Southerland, Fargo Fire Department; E. R. Townsend, Western Engineering Bureau, Chicago; Robert Jordan, State Agent, Minneapolis; Chief Remley, Moorhead Fire Department; R. L. Daniel, Engineer, General Inspection Company, and George H. Nettleton, State Fire Marshal.

A SET OF RE-THREADING TOOLS WILL BE PURCHASED BY THE FIRE MARSHAL'S DEPARTMENT, THE TOOLS TO BE AVAILABLE FOR USE IN CITIES THROUGHOUT THE STATE WHICH WISH TO TAKE ADVANTAGE OF THE STANDARDIZATION PROGRAM TO BE CARRIED ON UNDER THE DIRECTION OF THE STATE FIRE MARSHAL.

ARRANGEMENTS MAY BE MADE FOR THIS SERVICE WITHOUT COST BY MAKING A WRITTEN REQUEST AUTHORIZED BY THE LOCAL COUNCIL.

FOLLOWING THE RE-THREADING OF HOSE COUPLINGS IN MOORHEAD, THE WORK WAS TAKEN UP AT FARGO WITH THE RESULT THAT THE HOSE COUPLINGS IN EACH OF THESE CITIES IS NOW UNIFORM.

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330 State Capitol  
St. Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

ST. PAUL, JUNE 15, 1920

The Bulletin will be mailed to any address regularly upon request

**FOR A SANE FOURTH**

It is not too early to begin to think how the Fourth of July will be spent. Will it be a day of outdoor enjoyment, ice cream and innocent amusement, with a spirit of Patriotism and a hark back to what the day consecrates, or will it be a day of the clang of the fire engine bell, the rush of the doctor's automobile and possibly the visit of the undertaker?

Will the red of the sunset, the blue of the sky and the white of the fleecy clouds be smudged by the smoke of careless fires caused by fireworks?

Will night come down on a vista of ruins, and hiding a deluge of tears? Think it over!

From 1903 until 1915, inclusive, 1862 persons were killed and 42,089 injured in the celebration (?) of the Fourth of July. Of the 1862 deaths, 1143 were due to lockjaw following injuries from fireworks.

In 1917 the loss of property caused by fireworks fires amounted to \$221,904 in the United States; in 1918 the loss was \$279,391.

In 1908 when fireworks were allowed in Washington, D. C., the hospitals treated 104 cases. In 1909, when fireworks were prohibited, not a single bed was occupied by a burned victim.

Let individuals and municipalities think the Fourth of July question over.

Let Minnesota have a splendid Fourth, without the smoke and glare!

Let smiles, not tears, bid good-night to the setting sun on Independence day, 1920.

If the children must have their little fireworks, have some grown person on hand constantly during the display.

Finally, do not send up toy balloons.

**OFFICIAL PROGRAM**  
**FORTY-EIGHTH ANNUAL CONVENTION**  
of the  
**MINNESOTA STATE FIRE DEPT. ASSOCIATION**  
Held at Moorhead, Minn., June 15-16, 1920

**MOORHEAD FIRE DEPARTMENT**

**CONVENTION COMMITTEE.**

P. N. Pederson, Chairman.  
J. B. Erickson, Secretary.  
E. G. Melander.  
Peter Jestin.  
P. E. Malvey.

**TUESDAY, JUNE 15TH, 1920.**

Call to order at 10:00 A. M., by President, N. B. Remley.  
Opening Prayer—Rev. S. T. Sorenson.  
Music—Minneapolis Fire Dep't. Band.



**N. B. REMLEY,**  
Chief of Moorhead Fire Department,  
President of Association.

Address of Welcome—Mayor E. W. Humphrey.

Response—Frank Hanson, Rush City.

Appointment of Credentials' Committee.

Song—Moorhead Fire Dep't. Quartet.

Adjournment for Noon recess.

**Afternoon Session.**

Call to order at 1:30 P. M.

Music—Bemidji Juvenile Band.

Report of Credentials' Committee.

Reading of Communications.

Address—Mayor Hodgson, St. Paul.

Report of State Association Officials.

Report of Committee on Topics.  
Vocal Solo—Margaret Huntoon Moorhead.

Adjournment at 5:00 P. M.

At 5:30 P. M., Barbecue at Phoenix Hall.

Parade of Delegates, 7:30 P. M.

**WEDNESDAY, June 16TH, 1920.**

Call to order at 9:00 A. M.  
Opening Prayer—Rev. W. J. Hall Moorhead.

Song—A. E. F. Quartet.

Address—Captain G. R. G. Fisher of the American Red Cross, on Instruction to Firemen.

Reading and discussing of topics  
Adjournment for Noon recess.

**Afternoon Session.**

Call to order at 1:30 P. M.

Music by the Moorhead Band.

Report of standing committees.

Address by State Fire Marshal Geo. Nettleton.



**JOHN A. GROSS,**  
Secretary of Association.

Report of Special Committees.  
New Business.

Election of Officers.

Talk by County Attorney Garfield H. Rustad, Goodbye and Good Luck Adjournment.

Auto trip around the city and vicinity.

Evening, band concert and street dance.

# MINNESOTA STATE FIRE COLLEGE

THE TENTH OF A SERIES OF ARTICLES GIVING AN ACCOUNT OF THE FIRE COLLEGE HELD IN ST. PAUL SEPTEMBER 22 TO 26 UNDER THE DIRECTION OF THE STATE FIRE MARSHAL.

THE FIRST ARTICLE APPEARED IN BULLETIN NO. 4.

## "FIRE DEPARTMENT RESCUE WORK"

By LEON L. WOLF  
Instructor

### LESSON X.

#### Instructions in the Use of Ladders, Trucks, Hook Ladders and Scaling Ladders.

All officers and firemen should thoroughly familiarize themselves with the care, handling, raising and operation of all ladders and towers, and also the various uses to which they may be put. They should also know their various sizes and the heights they will reach when properly raised and placed against a building, and also the number of firemen or persons that may be permitted on them with safety.

All ladders should be so placed and fastened on apparatus that they can be easily and quickly removed and used.

All ladders should be so raised, placed, and secured that they will not break or fall when the weight of firemen or persons are on them.

Water towers, aerial or similar ladders which are secured to and raised from the frames of trucks by water pressure, worm screws, steel springs, compressed air, endless chain or other means require demonstrative instruction to be properly understood.

The best method for raising movable ladders or ladders which can be removed from an apparatus is the hand over hand method, by both or all men working together so as to keep the ladder even as it ascends and the fireman or firemen on the butt keeping that end down and steady by placing both feet on the bottom round close to the sides and remaining in a squatting position with a firm hold of the third round from the butt. The hand over hand method should also be adhered to when lowering all movable ladders.

Movable ladders when about to be raised to the front of a building should invariably be taken lengthwise on the sidewalk and raised from there; by so doing engine and hose companies are less obstructed from stretching in their lines of hose.

Before raising any ladder or water tower overhead wires should be looked for and avoided and where they interfere with the raising of ladders lengthwise from the sidewalk they should be raised from across the sidewalk and street.

#### Prevention of Ladder Accidents.

Movable ladders should never be raised butt end up and all large movable ladders after having been raised and placed should be immediately secured against falling by use of to prevent the top section fromings as described elsewhere.

All large movable extension ladders should be equipped with guards or clasps to keep the two sections together when the top section is being extended and also stops on each side at the proper distance from the top to prevent the top section from being extended too far and doubling up like a jack-knife.

Movable clasps or guides on extension ladders should always be put in place or clasped about both sections before the ladders are extended.

When hand cranks are used with which to extend ladders they should be held firmly in so as not to slip off the crank shafts, for in case they do and the lock is not on, the top section would come down suddenly and be liable to injure those at or holding the butt of the ladder.

When a rope is used for extending ladders it should not be allowed to become entangled or caught and after the extension has been raised to the required height and the ladder lock put on, the rope should also be made taut and fastened to the two bottom rounds of the lower section, thus making the upper section doubly secure.

In all cases where a ladder of any kind is raised and placed to a gable or slanting roof or structure a fireman should be left on the top of the roof or structure to hold the ladder from sliding, unless the same is secured.

When stationary iron or frame sheds extend over a sidewalk and it is necessary to raise ladders to windows above them, the ladders can be raised to the sheds on the street side and then pulled up on the roof of the shed and the top of the ladder slid up along the front of the building to the required window, after which the butt of the ladder should

be placed over a beam so as not to break through the roof of the sheds, and when necessary, holes should be cut in the roof of the shed in which to place the butt end of the ladder to keep it from slipping or a fireman should be placed at the butt for the same purpose.

This method of raising or sliding a ladder top end up alongside or against the wall of a building can also be used in alleys or where space is limited.

#### Rescuing Persons at Windows.

Another method to reach windows

over a sidewalk shed is to raise two ladders of the same height, one on each side of the shed, and stretch a rope or ladder across from each. In this case the top end of the raised ladders should extend in windows to keep them from falling.

When it is necessary to rescue a number of persons or where difficulties are encountered in rescuing any person from a single window on the upper floor of a building, two ladders should be raised to the window and placed alongside each other. By this method more assistance can be given to the person or persons in danger and if a stream of water is required a line of hose can be run up one of the ladders.

When a ladder is in danger of breaking from overweight a short ladder should be held under it as a prop or support and the butt of the bending ladder held firmly to keep it from slipping; the jumping net should also be held under the person or persons on the ladder until it is secured.

When it is necessary to pull a ladder over the roof of any building, it should first be raised and placed against the building that it is to be pulled over; then a rope should be lowered from the roof and the end fastened near the butt of the ladder with a bow-line hitch after which the rope should be slipped through the ladder strap hook which should be fastened just above the center of the ladder. The ladder can then be pulled up as far as the ladder strap, after which it can be pulled down and over on the roof by hand. A hose roller should be used to pass the rope over when hauling a ladder to the roof.

When a ladder strap is not at hand the rope can be passed through the rounds of the ladder just above the center and the end fastened with the bow-line hitch as above described.

When a stairway is burned away or in danger of falling, a ladder should be used as a substitute or as a support for the stairs.

Ladders may also be used as a temporary brace for walls that are in danger of falling outward or on another building or on persons in danger.

When ladders are placed against a building the walls of which are in danger of falling, the ladders should be pulled out at the bottom and removed in that manner; when there is immediate danger a rope should be tied to the bottom round and the ladder pulled away.

(To be continued.)

## FIRE MARSHAL BULLETIN

## FARM PROPERTY.

According to reports filed with the State Fire Marshal, farm property in Minnesota valued at \$2,678,408 was destroyed by fire during 1918. \$1,734,815 of this loss is charged to the forest fire which swept northern Minnesota, October 12th, 1918. Probably 75% of this loss may be charged to carelessness or negligence.

Your property may be in this list this year or next. Will you do all you can to prevent it?

Don't allow anyone to smoke in your barn or other outbuildings.

Don't keep your automobile or tractor in the barn, but provide a separate garage, which should not expose another building.

Don't keep gasoline except in closed safety containers. Never store quantities of ten gallons or more except in underground tanks or at least 150 feet from any building.

Don't hang up old clothes or oily rags in barn or other outbuildings except in metal-lined lockers.

Don't allow steam engines without spark arresters near barn or other buildings.

Don't fail to provide lightning rods for every important building.

Don't burn trash, brush or rubbish near buildings, fences or other property, and nowhere except with greatest care.

Don't put hay in mow until properly cured. Be careful also with damp fodder and straw, and bins of moist grain and seeds. Don't put new hay or fodder on old hay, straw or fodder. Danger of spontaneous combustion. Clean floors thoroughly before storing hay.

Don't neglect to have ladder, buckets, and water handy at all times, and to keep each in its proper place.

Don't smoke meat except in buildings removed a safe distance from other buildings unless properly equipped to prevent fires.

Don't neglect to have all flues cleaned, examined and repaired at least once each year.

Don't pass stove pipes through ceilings, roofs or wooden partitions.

Don't fail to place metal protection under all stoves and protect woodwork where stoves or furnaces are close to walls.

Don't allow children to play with matches. Keep matches in closed metal box.

Don't use kerosene to start a fire. Many lives are lost annually from this cause.

Every vagrant spark carries a menace. Watch them and provide against possible disaster.

Save your property from fire destruction by removing the hazards that make for fires.

TOTAL LOSSES FOR MONTH OF APRIL, 1920.					
	No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents	
St. Paul . . . . .	39	\$948,600	\$29,090	\$716,350	
Minneapolis . . . . .	77	1,763,850	61,333	926,100	
Duluth . . . . .	13	926,100	10,170	91,209	
Outside Three Cities . . . . .	92	638,048	218,260	280,142	
Total . . . . .	221	\$3,494,998	\$318,853	\$2,013,792	
APRIL—1919.					
	No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents	
St. Paul . . . . .	27	\$220,000	\$7,335	\$155,499	
Minneapolis . . . . .	39	374,600	30,880	250,375	
Duluth . . . . .	9	137,550	4,750	103,500	
Outside Three Cities . . . . .	77	272,330	125,410	143,289	
Total . . . . .	152	\$1,004,480	\$168,375	\$652,663	
FIRE LOSSES, MONTH OF MAY, 1920.					
	No. of Fires	Value of Bldgs. and Contents	Damage to Bldgs. and Contents	Ins. on Bldgs. and Contents	
St. Paul . . . . .	29	\$966,825	\$21,375	\$692,487	
Minneapolis . . . . .	60	1,942,025	56,139	1,025,075	
Duluth . . . . .	17	672,200	23,425	593,950	
Outside Three Cities . . . . .	101	493,127	136,390	224,085	
Total . . . . .	207	\$4,074,177	\$237,329	\$2,535,597	
MAY—1919.					
	No. of Fires	Value of Bldgs. and Contents	Damage to Bldgs. and Contents	Ins. on Bldgs. and Contents	
St. Paul . . . . .	35	\$1,367,675	\$86,410	\$1,322,500	
Minneapolis . . . . .	58	906,255	48,982	683,155	
Duluth . . . . .	8	81,900	5,590	42,150	
Outside Three Cities . . . . .	89	489,319	122,152	254,369	
Total . . . . .	190	\$2,845,149	\$263,134	\$2,302,174	
BUILDINGS CONDEMNED DURING MAY.					
			St. Paul.		
Mary M. Keogh.		465 Hopkins St.,		Dwelling	
Erick G. Anderson,		865 Jessie St.,		Barn	
John Funk,				Brew. & Ice H.	
Mrs. E. G. Sladeland,		925 Case St.,		Barn	
W. S. Vent and E. H. Steiger,		4th St. & Summit Ave.,		Church	
W. S. Vent and E. H. Steiger,		4th St. & Summit Ave.,		Dwelling	
H. E. Selder & Cordelia Selder,		192 W. Summit Ave.,		Dwelling	
H. E. Selder & Cordelia Selder,		162 W. Summit Ave.,		Vacant building	
K. Sander,		611 E. 1st St.,		Barn	
Mrs. M. A. Denison,		27 Sutphin St.,		Store	
M. Markovitz,		320 E. 5th St.,		Barn	
J. L. Jackson,		112 E. 4th St.,		Vacant building	
W. B. Fryberger & R. M. Wolvein,		121-23 W. 1st St.,		Store	
Debbie Eldridge,		Minneapolis.			
S. Baker,		618 Plymouth Ave.,		Dwelling	
Joe Andre,		619 Bassett Place,		Dwelling	
Carew Estate,		3909-11 Wash. Ave. N.,		Dwelling	
Caroline Hay,		Princeton,		Laundry	
Jones Harrison Home,		Excelsior,		Barn	
Wm. Richards,		Excelsior,		Store	
Louisa Holman,		Morris,		Livery	
H. A. Northcott,		Morris,		Barn	
J. L. P. Accola,		Morris,		Barn	
Harry Quigley,		Morris,		Ice house	
Paul F. Cooke,		St. Cloud,		Barn	
J. C. Moos,		St. Cloud,		Blacksmith shop	
Theresa Kost,		St. Cloud,		Barn	
Fred and Louise Lamer,		Maple Lake,		Barns	
Claus P. Moe,		Madison,		Store	
Louis O. Berg,		Madison,		Barn	
E. H. Peterson,		Madison,		Blacksmith shop	
Magnus Jacobson,		Madison,		Shed	
G. O. Quim,		Madison,		Shack	
P. G. Jacobson,		Madison,		Shed	
Anthon S. Mueller,		Madison,		Shed	
				Shed	

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## STATE OF MINNESOTA

# FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol.

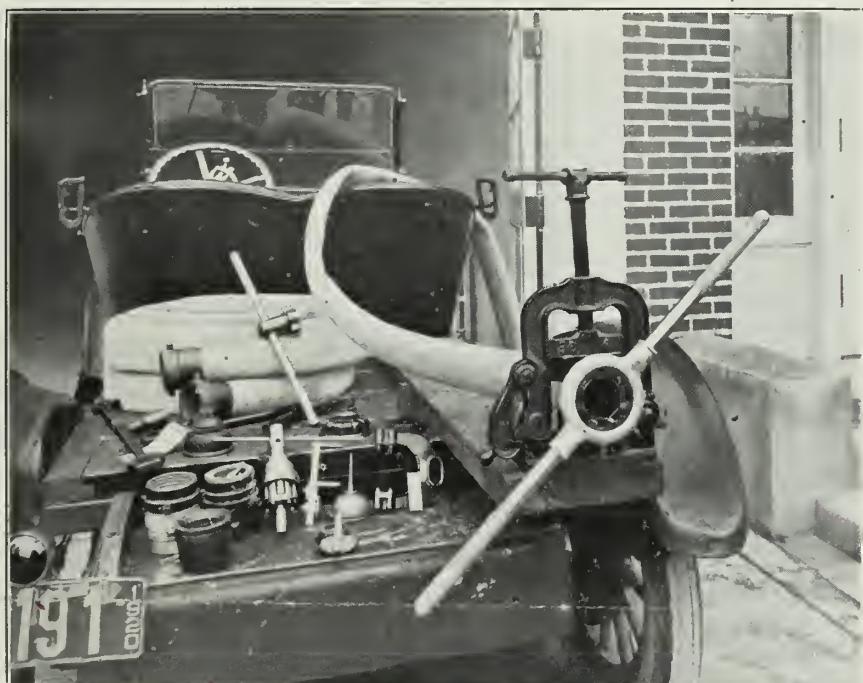
No. 14

Saint Paul

July 15, 1920

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THESE ARE THE TOOLS USED IN RE-THREADING HOSE COUPLINGS TO MAKE THEM CONFORM TO THE NATIONAL STANDARD.

MOORHEAD HAS ALREADY USED THEM AND COMPLETED THE JOB. WILL YOUR CITY BE NEXT? ANY CITY WISHING TO STANDARDIZE ITS HOSE COUPLINGS SHOULD ARRANGE WITH THE STATE FIRE MARSHAL FOR THE SERVICE AT THE EARLIEST POSSIBLE DATE.

THE SERVICE WILL BE RENDERED WITHOUT COST TO ANY CITY UPON RECEIPT OF A WRITTEN REQUEST AUTHORIZED BY THE LOCAL COUNCIL.



**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330 State Capitol  
St. Paul, Minn.

Published monthly in the interest of Fire  
Prevention and Fire Protection

ST. PAUL, JULY 15, 1920

The Bulletin will be mailed to any address  
regularly upon request

**THE NEW DAWN.**

The Fourth of July, always a day of suspense and labor for the average fire department was a period of comparative quiet and there was little in the way of property loss in Minnesota this year. The number of fires reported as due to fire works was comparatively few, while the property loss was almost nil. Only two fatalities were registered.

Ten years ago, yes, less than five years ago, no Fourth of July was complete without its trail of conflagrations, while as to fatalities, there were any number and they were accepted as a matter of fact. In respect to injuries from burns and explosions no physician's record was complete without them. Now, thanks to laws curtailing the use of fire works and nation-wide education in the matter of patriotic celebrations, all is changed and the hope is that eventually both loss of life and property due to such will be completely obliterated.

Minnesota was among the first of the states to take steps in the matter of the regulation of the sale and use of fireworks. Under a law passed, the sale of the giant fire cracker was prohibited and municipalities encouraged in the passage of ordinances governing the sale and use of such fireworks as were permitted. Added to this was a line of anti-propaganda, all of which has had beneficial effect.

With the passing of the years the noisy celebration of not only the Fourth of July, but other national fete days is gradually growing less. Celebration is now along more safe and sane lines and the prediction is that the fireworks feature of the day will soon be a thing of the past.

**NO LIGHTNING RODS.**

The absence of lightning rods was responsible for five fires during the first week of July, this year. Two of the structures were barns, one a telephone exchange and the others were dwellings. In all five cases the loss from the fire which followed was almost complete.

**Minnesota State Fire College**

THE TENTH OF A SERIES OF ARTICLES GIVING AN ACCOUNT  
OF THE FIRE COLLEGE HELD IN ST. PAUL SEPTEMBER 22 TO 26  
UNDER THE DIRECTION OF THE STATE FIRE MARSHAL.

THE FIRST ARTICLE APPEARED IN BULLETIN NO. 4.

**LESSON X—(Concluded).**

**Position on Ladders.**

When ascending or descending ladders or fire-escapes, firemen should always face the ladder or fire-escape and also direct others to do likewise; this is the safest and best way to ascend or descend ladders or fire-escapes, as a person can hold on to the rounds or sides of the ladder or fire-escape, and place the ball of the feet on the rounds. To descend with the back to a ladder or fire-escape causes the heels to catch in the rounds and throw the person descending forward and gives nothing to catch hold of to prevent falling.

When lowering ladders into cellars, sub-cellars, subways, areas, or other similar places, care should be taken to ascertain that they rest on a solid foundation before ascent is made by them.

When a person or a number of persons are in great danger and about to drop or jump from the upper floor windows or roof of a building, the jumping net should be used in addition to ladders to effect their escape.

When it is necessary to ventilate a building at the roof, and the ladders at hand are of sufficient length to reach the roof, the ventilation can often be done much quicker and better by raising the ladder to the roof and ascending by it than by going through the next building and having to open or break locked doors, especially at night time.

**Other Uses of Ladders.**

Ladders may be used as battering rams to open large doors, iron shutters, or partitions that are a distance or just

**OIL AND THE ELECTRIC SPARK.**

While the average oil filling station is now constructed along lines believed to be the last word in safety and freedom from fire, the fire fiend has not been entirely squelched in respect to this class of building. Even the very safety appliances calculated to minimize his activities often supply the cause.

This was illustrated recently when a spark from an electric motor pump used in a filling station at Northfield set fire to several tanks containing gasoline and caused a property loss totaling nearly \$20,000. As a result of the explosion which followed two employes of the company were badly burned, one dying later from his injuries.

The filling station was erected recently and was considered the last word in construction and safety appliances. Only electricity was used for pumping purposes and fire in all forms was prohibited.

out of reach, by using the butt ends to strike with.

Ladders may be used as bridges from one building to another across air, light, or other shafts, roofs, fire escapes, etc., by which persons or firemen may cross or escape from fire or other danger.

When a ladder is used as a bridge over a large span or when the ladder would be liable to bend and break if put on the flat it should be put on its side and firmly held in that position while persons or firemen are crossing on it.

Ladders may be used for pushing over dangerous or loose walls from an adjoining building or the roof of an adjoining building.

Aerial ladders can be used as water towers, but it is not safe to extend them when so used.

**Hook Ladders.**

Hook ladders may be used to advantage as follows:

To get from one balcony fire-escape to another, when there are no connecting ladders.

To get over roofs from fire-escapes when there are no ladders to the roof.

To get to the peak of gable roofs.

To get from one floor to another when used similar to scaling ladders.

When hooked ladders are used to get over roofs from fire-escapes or as scaling ladders one or more firemen should hold the ladder while the other ascends or descends.

Climbing and rescuing persons by the use of scaling ladders and ropes must be taught and practiced to be properly understood.

(To be Continued)

**DO YOU?**

Do you believe in fire protection?

Do you practice it in your home or place of business?

Do you make periodical inspections of your premises, to make sure that attic, basement, store-rooms and closets are in good order?

Do you have a metal receptacle for rubbish and waste?

Do you have metal receptacles for ashes?

Do you have your heating plant inspected and the flues or chimneys cleaned at least once a year?

Do you inspect your gas and electric light fixtures and extension cords occasionally?

Do you protect your home or place of business with an approved hand extinguisher?

Do you keep one on your car?

Do you carry fire insurance? Of course you do. Then you should make an effort to reduce the fire hazard by following the above suggestions.

**SUGGESTED FIRE ORDINANCE FOR SMALL MUNICIPALITIES**

*Compiled by the National Board of Fire Underwriters and endorsed and adopted by the Minnesota State Fire Marshal's Department as a standard for small towns and villages.*

*Because of its length, the code will be published in a series of installments.*

**T**HIS suggested ordinance providing for fire limits and the construction and equipment of buildings is an abbreviation of modern requirements representing best practice in building construction. It has been compiled with special reference to the necessities of small towns. It is designed to arrest present hazardous practices and to serve as a reasonable regulation of ordinary building construction in communities where congestion of values is not abnormal. The first installment appeared in Bulletin No. 7.

**ORDINANCE PROVIDING FOR FIRE LIMITS, AND THE CONSTRUCTION AND EQUIPMENT OF BUILDINGS IN SMALL TOWNS AND VILLAGES.****ARTICLE FIVE.**

**Section 17. Roof Openings.**—All openings in roofs for the admission of light or air, other than those provided for in Sections 13 and 15, shall have incombustible frames and sash glazed with wired glass; or ordinary glass may be used, if protected above and below by galvanized steel wire screens with a mesh not exceeding one inch, and the wire not smaller than No. 12 gauge. The top screen shall be installed as specified in Section 13.

**Section 18. Exits Required.**—The term **floor area** as used in this section shall mean the entire floor space between exterior walls and fire walls.

In every building hereafter erected, except in private dwellings, each floor area above the first shall be provided with at least two means of egress remote from each other, one of which shall be an enclosed stairway as provided by Section 12, or a doorway in a fire wall leading to another floor area separately provided with adequate stairs or other independent means of exit. Such doorway serving as an emergency exit in a fire wall shall be protected by an automatic and a self-closing fire door, as specified in Section 11.\* No portion of any floor area shall be more than 100 feet from a place of egress. Elevators shall not be considered as a means of egress as specified in this section.\*\*

Except in dwellings, no required stairway shall be less than 44 inches wide, and the total width of exit doorways leading therefrom shall at least be equal to the total width of the stairways which they serve.

The total width of stairway, interior and exterior, provided for the occupancy of each floor and those above, shall be not less than 44

inches for the first 50 persons, and 12 inches for each additional 50 persons to be accommodated thereby. The stair treads shall be not less than 9½ inches wide, and the risers not more than 7 3-4 inches high. Winders in such required stairways are prohibited.

Every school, hospital and theatre, over one-story high, shall have at least two stairways constructed entirely of incombustible material, located remote from each other and continuous from grade line to the topmost story.

All exit doors in schools, hospitals, theatres and other places of public assemblage shall open outwards.

**Section 19. Fire Stops.**—At each floor level, in all buildings hereafter erected, all stud walls, partitions, furrings and spaces between joists where they rest on division walls or partitions shall be fire-stopped with incombustible material in a manner to completely cut off communication by fire through concealed spaces. Such fire-stopping shall extend the full depth of the joists and at least 4 inches above each floor level. Stair carriages shall be fire-stopped at least once in the middle portion of each run.

**Section 20. Areaways.**—All areaways shall be guarded with suitable railings, or be protected by incombustible covers or gratings. If gratings be used, they shall have a wire screen of not more than ½ inch mesh securely attached to the underside.

Areaways shall not project beyond the building line.

**Section 21. Frame Buildings.**—No frame building hereafter erected or altered shall exceed two stories or 30 feet in height, except that private dwellings may be three stories or 40 feet high.

No frame building hereafter erected for any occupancy other than grain elevators, coal elevators and pockets, ice houses and exhibition buildings, shall cover a ground area exceeding the following: One-story building 7500 square feet, two-story building 5000 square feet.

In no case shall a frame building be erected within 5 feet of the side or rear lot line, nor within 10 feet of another building, unless the space between the studs on such side be filled solidly with not less than 2½ inches of brick-work or other equivalent incombustible material.

In rows of frame houses, the dividing walls or partitions between houses shall be built of brick, terra cotta, concrete or other incombustible material; or they may be built with

4-inch studs, filled solidly with brickwork laid in mortar, or with other incombustible material. If lath be used on such partitions it shall be metal lath. Such dividing partitions shall rest on masonry walls and shall extend to under side of roof boards. A flush mortar joint shall be made between the roof boards and the wall or partition. In rows of more than three houses every alternate division wall or partition shall be constructed of solid brickwork not less than 8 inches in thickness.

Buildings with wooden framework clad with sheet metal, or veneered with brick, shall be classed as frame buildings.

Outside the fire limits, when any building is to be erected of brick, stone, hollow block, or concrete that could under this ordinance be constructed of wood, the Chief of Fire Department or other designated official is hereby authorized and directed to allow reasonable modifications of this ordinance relating to brick buildings, in consideration of the use of incombustible material instead of wood. Such modifications, however, shall not permit variations from the requirements of Sections 12, 18 and 24 of this ordinance.

**Section 22. Electrical Installations.**—All electrical installations shall be in accordance with the National Electrical Code, and no installation of electrical equipment shall be made, except in conformity thereto.

**\*Horizontal Exit.**—As a means of rapid and safe egress from a burning building, the use of horizontal exits through a fire wall or a fire exit partition are strongly recommended. Such a partition shall be built of fire-resistant material not less than 3 inches thick, and be securely attached to the walls, floor and ceiling of the room which it sub-divides. It shall be provided with one or more self-closing fire doors, that is, doors which are kept closed by some automatic device. Such a partition would afford an area of quick refuge upon either side. Each area must be sufficient to accommodate all the people employed upon the floor, and must be provided with at least one independent exit to the street. As above indicated, a fire wall may be made to serve the same purpose. As a means of egress, a doorway in such a partition or fire wall may be considered the equivalent of three times the same width of stairway.

**\*\*Smokeproof Tower.**—The use of a smokeproof tower or stairway is also recommended as one of the best known means of safe escape from a burning building. At the same time it furnishes a protected position from which firemen can attack a fire on any floor. Such a tower is built entirely of incombustible materials, and has no direct openings into the interior of the building it serves. It is reached by a fireproof open-air balcony or interior open-air vestibule, thus effectually excluding smoke and fire from the tower. The entrance at each floor level is protected by a self-closing fire door.

(Continued on page 4.)

# FIRE MARSHAL BULLETIN

## FIRE POLICIES TOO EASY TO GET.

"Was it covered by insurance?" is generally one of the first questions asked after a fire occurs. If not, then the next remark is, "It's too bad." In most cases though, the risk was insured all right, because all the insured had to do was to call up a local agent, and tell him what he wanted and the policy came through the mail a day or two later.

The local agent was so busy trying to beat some other agent to a certain piece of business that he didn't have time to make a personal inspection of the property to ascertain its value or discover the physical defect that caused the fire.

Insurance is secured this way every day. The practice is all wrong. No piece of property should be insured until it has been inspected by the agent insuring it. If the inspection reveals dangerous conditions, the same should be called to the attention of the owner, and not until the defects are corrected should a dollar's worth of insurance be written on the property.

If every agent would do this, and stick by it, the annual fire waste would be greatly reduced. For the careless property owner would in this way be forced into carefulness, and besides there would be little chance to over insure.

## RUBBISH HEAPS.

More fires originate in rubbish heaps than from any other source. To permit rubbish to remain in the building not only invites a fire to visit your home or place of business, and render your family temporarily homeless, or cripple your business at a time when you can least afford it; but you are also permitting the lives of your family or employees to be endangered, for fire not only destroys a quarter of a billion dollars worth of property each year, but also claims over 2,000 human lives each year. The home is built to protect our loved ones, and we want to do everything to insure absolute protection to those who live in it.

That rubbish heap in the attic, store-room or basement is a menace to your household, because there is always a possibility of fire starting in it, and the worst of it is it may start when least expected.

Fire may rout you and your family out any night—your wife, children and you may escape and some of you may not—just use your imagination and think what might happen and then get a safety-first move on you and have that menace eliminated.

## UNPROTECTED GAS JET.

Miss Helen Scott, librarian at Virginia, was probably fatally burned when her hair caught fire from an unprotected gas jet. She was washing her hair and in turning her head quickly, her hair brushed against the open flame. Police officers found her on the floor unconscious with her hair burned completely off and her head and face badly scorched.

## Suggested Fire Ordinance

(Continued from page three)

### SECTION 23. CHIMNEY CONSTRUCTION.

1. The walls of chimneys used for stoves, ranges, fireplaces, heating furnaces, or other heating appliances, whether the fuel used be wood, coal, oil or gas, shall be built of brick, concrete, stone, or hollow tile of such thickness and construction as is hereafter specified. All chimneys, irrespective of which materials the walls are built, shall be lined with fire clay flue lining or with fire brick. The lining shall be made for the purpose and adapted to withstand high temperatures and the resultant gases from burning fuel.

2. Solid brick or concrete chimney walls shall be not less than 4 inches thick exclusive of flue linings. A standard size brick laid flatwise shall be deemed to fulfill this requirement for brick.

3. Concrete chimneys cast in place shall be reinforced vertically and horizontally to avoid cracks liable to occur from temperature stresses or unequal settlement of foundations. The metal shall be thoroughly embedded in the concrete. Concrete blocks shall be similarly reinforced in both directions.

4. Stone chimneys shall be at least 4 inches thicker than required for corresponding brick or reinforced concrete chimneys, and shall have flue linings the same as for brick chimneys. Rubble stone chimney walls shall be not less than 12 inches thick.

5. Hollow tile shall not be used for the walls of isolated or independent chimneys, but it may be used for chimneys built in connection with exterior hollow tile walls of buildings not exceeding three stories in height, in which case the chimney walls shall be not less than 8 inches thick. The

outer 8 inches of a building wall may serve as one side of the chimney, but the remaining chimney walls shall be constructed of two layers of 4-inch tile set with broken joints; or they may be built of 4 inches of solid brickwork. The side walls of the chimney shall be securely bonded into the wall of the building. No chimney shall be corbeled from a hollow tile wall.

(To be continued.)

## WATCH YOUR CAMP FIRE.

Three young men who liked outdoor life once went to a lake not very far for a day's outing. They took along their bathing suits, and sundry articles to cook. They built a fire, swam in the cool waters of the lake when fancy prompted, cooked their lunch when hunger bade them, and returned home late in the evening.

A few days later one of the worst forest fires in the history of the state was raging in the country about the lake. Everyone was quick to condemn the carelessness which had caused the fire, including the three young men. Yet it was their unextinguished fire that had done the damage.

Such destruction, though unintentional, is a crime meriting the severest punishment. Wherefore, if you must build fires in the open, be careful. And extinguish every spark before you leave.—Milwaukee Journal.

## FIREMEN OVERCOME.

Gas fumes in the basement of a building in Minneapolis almost put the entire crew of a local fire station in that city out of commission recently. The fumes were so strong as to render a number of the men unconscious and for a while it was thought several fatalities would result. In all twenty-four firemen were overcome. Escaping gas in fire menaced buildings is not uncommon, but the strength of the fumes on this particular occasion was somewhat out of the ordinary. The source of the gas is being investigated.

## TOTAL LOSSES FOR THE MONTH OF JUNE, 1920.

	No. of Fires	Value on Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	26	\$2,633,150	\$24,320	\$1,466,300
Minneapolis .....	31	6,352,100	102,720	5,508,850
Duluth .....	9	58,990	7,306	28,900
Outside 3 Cities.....	55	1,043,510	459,011	553,705
Total .....	112	\$10,087,750	\$593,357	\$7,557,755

## JUNE, 1919.

	No. of Fires	Value on Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	12	\$622,400	\$4,460	\$585,750
Minneapolis .....	36	1,392,760	30,995	1,216,063
Duluth .....	12	155,075	11,225	104,600
Outside 3 Cities.....	46	205,576	96,704	95,133
Total .....	106	\$2,375,811	\$143,384	\$2,001,546

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# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 15

Saint Paul

August 15, 1920

## ANNOUNCEMENT MINNESOTA FIRE COLLEGE September 13-18 1920

### “SEND THE CHIEF”

This is the slogan adopted this year in boosting the Minnesota Fire College. It is an opportunity that no city or town in the state can afford to pass up. The value of the instruction which the chief will receive cannot be measured in dollars and cents. The results obtained last year surpassed all expectation. The expenditure of city funds necessary to defray the expense proved to be a paying investment.

#### Why the Chief Should be Permitted to Attend

Every city and town having a fire department is invited to send two men to the College. One of these men should be the chief for the reason that he is the head of the department. He is the man, or should be the one, who is the most interested in the welfare of the department. He is the leader, the one who the other members of the department look to for instruction. By attending he will be better qualified to discharge his duties as chief. He will acquire a better knowledge of fire department work, the importance of physical training and the need of discipline, which is most essential in keeping the organization under control on the fire ground. He will be instructed in the latest methods in modern fire fighting and first aid and rescue work, which he may impart to the members of his department on returning home and all of which will tend to create a new interest in and increase the efficiency of your department.

### “SEND THE CHIEF” FIRE PREVENTION CONGRESS

Thursday, September 16  
Palm Room, Saint Paul Hotel  
Everyone Interested in Fire Prevention is Invited

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330 State Capitol  
St. Paul, Minn.

Published monthly in the interest of Fire  
Prevention and Fire Protection

ST. PAUL AUG. 15, 1920

The Bulletin will be mailed to any address  
regularly upon request

**THE 1920 MINNESOTA FIRE  
COLLEGE.**

The Minnesota State Fire College inaugurated a year ago in connection with the Fire Prevention Congress will be repeated this year but on a more elaborate scale. The College will be in session the entire week with the exception of Thursday, September 16th, on which day class work will be suspended for the Fire Prevention Congress to be held in the Palm Room of the St. Paul Hotel.

The program is now in the making and the course of instruction planned will be most valuable to every fireman in the state. Last year the College was an experiment. Minnesota became the pioneer to adopt this method of training firemen in modern methods of fire fighting. Its success justifies making it an annual affair.

One hundred sixty-three firemen enrolled in the 1919 College and there is every reason to believe that the figure will be doubled this year. Many organized fire departments, aware of the value of the instruction from participation in the course, have already arranged to make it possible for certain members of their departments to attend.

That the College and its course of instruction will eventually become a state institution and receive state recognition is apparent from the endorsement it has received from municipalities which have benefited by it.

Mr. Leon L. Wolf, physical director of the Cincinnati Fire Department, has again been secured as chief instructor. Mr. Wolf is recognized as one of the leading authorities in the United States on questions of modern fire fighting and rescue work and the course of instruction as planned by him will include many new ideas and methods in fire fighting and rescue work. His articles on "Modern Fire Fighting and Rescue Work" which have appeared monthly in the Fire Marshal Bulletin have done much to interest and instruct firemen in their work and many of the modern ideas as explained in these

articles will be personally demonstrated during the College.

The object of the Fire College, which is under the supervision of the State Fire Marshal, is to give firemen of Minnesota a short course in modern fire fighting methods and rescue work and to demonstrate the same through the use of modern apparatus and appliances and by oral instruction. The course as planned will be a comprehensive one and will include every phase of the fire fighting and fire prevention game.

The subjects to be covered include physical training, ladder scaling, rescue work, first aid work, hose exercises and the use of modern apparatus and appliances. There will also be lectures on the use of gas masks and other subjects peculiar to the profession.

As stated, the College will be under the supervision of the Fire Marshal and is open to firemen of all organized departments in Minnesota

**FIRE LOSSES IN AMERICA.**

There is something disquieting in the annual report of the National Board of Fire Underwriters showing a steadily increasing property loss by fire in the United States during recent years. In 1919 the loss was the greatest both in amount and per capita in our history, excepting only 1906, the year of the San Francisco earthquake and fire, and 1918, when the destruction of numerous war munition plants ran the figures up enormously.

The fire loss in the United States last year is placed by the board at \$325,000,000, or approximately \$900,000 for each day of the year, and amounting to about \$3 for each man, woman and child. The per capita loss is not so startling until compared with a corresponding loss of 61 cents in Great Britain and of even less for France, Germany and

**Find Yourself**



**THE CLASS OF T**

Held at the St. Paul

163 men enrolled in this class last year. We

and a limited number from adjoining states who wish to attend. The only expense will be that attendant upon traveling and while in St. Paul, which should be defrayed by the municipalities represented.

**NO RESPECTER OF PERSONS.**

Fire is no respecter of persons. It has neither sentiment or qualms of conscience, the young and beautiful, the rich, the poor, the sweet infant or the decrepit grandmother, are alike its victims. The safest way to combat it is to practice care and cleanliness at all times. Every individual clean-up daily habit, every community clean-up week, are effectual enemies of both fire and disease.

Austria, taking latest available computations.

Much of the difference between this and European countries undoubtedly is accounted for by the materials used in construction of buildings; but this does not tell the whole story. Certainly it does not explain the growing loss per capita in America, for a larger percentage of new building each year is of fireproof materials. Possibly the answer is to be found in the greater rush and intensity of living in America, with an accompanying carelessness of life and property. If Europe has fewer fires, so also it has fewer automobile accidents and train wrecks. We are a new and a growing country and are in a terrific hurry. When we slow down, if we ever do, our fire and accident statistics may show up better.—St. Paul Pioneer Press.

## Minnesota State Fire College

THE TENTH OF A SERIES OF ARTICLES GIVING AN ACCOUNT  
OF THE FIRE COLLEGE HELD IN ST. PAUL SEPTEMBER 22 TO 26  
UNDER THE DIRECTION OF THE STATE FIRE MARSHAL.

THE FIRST ARTICLE APPEARED IN BULLETIN NO. 4.

### LESSON XI

#### VENTILATION.

One of the most important things in fire duty is the knowledge of ventilation; when to ventilate, how to ventilate and where to ventilate. The commanding officer on the fire ground should make it his duty to see that the correct rules of ventilation are carried out, for in many instances, fires that have been under control have gotten away, due to the fact that the fire had gained fresh impetus through fresh draughts,

heat, fumes or gases, all outside cellar doors, rear windows, vault covers, exterior elevator hoists and all other exterior openings to the cellar or sub-cellars should be opened, and if necessary the dead-light removed so as to draw the heat, smoke, fumes or gases out of the cellar or sub-cellars and as little as possible up through the building.

For cellar or sub-cellars fires it is sometimes necessary to open up all outside doors and windows on the first or ground floor of the building in addition to the outside opening, and sometimes it is necessary to ven-

ters a better chance to direct their streams up to the ceilings and further in on the floors.

When it is necessary to ventilate only a room or rooms the windows should be pulled down from the top three-quarter way and pushed up from the bottom one-quarter way or so as to meet the top sash after it has been pulled down.

#### Roof Ventilation.

When it is necessary to ventilate or open up the roof of any building the ventilation or opening up should, where possible, be made directly over the fire, that is, if the fire is traveling up a stairway, the roof door, or scuttle over the stairway should be opened or removed; if up a dumb-waiter, elevator, light, air or other shaft, the hood, skylight, or other covering over the same should be opened up or removed. By so doing the fire, heat, smoke, fumes or gases are drawn straight upward instead of spreading through the various floors or rooms and endangering the occupants of the building who may be sleeping or awake.

When it is necessary to cut up a portion of roof to ventilate any building or the top floor of any building, it should, where possible, be cut in squares or oblongs. This makes repairing easier. It also makes it easier for the Fire Insurance patrol to spread its covers over the openings after the fire has been extinguished.

After a portion of the roof has been cut up for ventilation purposes if necessary, the hanging ceiling should be pushed down with a hook or axe so as to give free ventilation.

When opening up a roof it is better to cut the tin and roof boards through with an axe and tin cutter the size of the opening required first before pulling up the boards with a hook. The reason for this is that one board cut and pulled up will often prevent the cutting of more by the smoke and heat coming through the opening and blinding the axemen.

The tin cutter or a hook sharpened on the inside should be used to strip the tin off a roof if they are at hand and the tin should be removed first before the boards are cut.

Top floor windows can often be pushed down with a hook from the roof of a building when ventilation of that floor or its rooms is necessary.

#### GUARDING AGAINST

#### POSSIBLE ACCIDENTS

When windows cannot be reached or opened by ladders, with hooks, or in any of the usual ways and ventilation is absolutely necessary, the ball and chain should be used, but when using the same, care should be taken not to strike persons at or inside windows, or let the ball fall on any one.

Fire on, or which has extended to, the top floor of any building often

(Continued on page 4.)

### Your Friends



### 19 FIRE COLLEGE

Sept. 22 to 27, 1919

Double that number this year. Will you come?

caused by erroneous ventilation.

When an entire building is charged with heat, smoke, fumes or gases, ventilation should be made at the highest point first, which is the roof, by opening roof door, scuttle, skylights, top floor windows and the windows on each floor as descent is made, or if necessary by cutting up a portion of the roof.

By opening up the top of the building first, and then the windows as descent is made it allows the greatest amount of heat, smoke fumes or gases to escape quickly and gives the Engine, Hose and other Companies a better chance to enter the building from below and to escape cut-off by flame, which would occur if the building were ventilated from the lower floors and then upward.

#### Cellar and Sub-Cellar Ventilation.

When only the cellar or sub-cellars of a building is charged with smoke,

tilate the entire building.

When holes are cut in floors for the purpose of increasing cellar or sub-cellars ventilation the holes should be cut as near to open windows as possible to allow the heat, smoke, fumes or gases a free escape from the building.

The success of Engine or Hose companies when fighting fire in cellars or sub-cellars often depends on quick and good ventilation.

#### BUILDING, FLOOR AND ROOM VENTILATION

When the ventilation of an entire building or the floor of a building is necessary the windows should be pulled all the way down from the top; this method permits a freer and quicker escape for the smoke, heat, fumes, or gases in such cases and gives firemen working on water tow-

## Minnesota State Fire College

(Continued from page three)

gets into the hanging ceiling and hollow cornices and travels along in the same to the next building; this should be guarded against by opening up the cornice and roof if necessary on each side so as to draw the fire away from the other building or buildings.

When there is a water or other tank on the roof of any building or structure, firemen should never cut away any of its supports or do anything that would cause the tank to topple over or fall, and when a tank is considered at all dangerous the firemen or persons on the floor or floors underneath the same should be notified of the fact.

When the tank is of wood, contains water, and is considered dangerous (if possible to do so) the water should be let out by opening the valve at the bottom, and if this cannot be done a hole should be bored in the side of the tank near the bottom and the water let out; an axe should never be used to cut a hole in a tank as the jarring caused by the chopping would be liable to cause the tank to fall, and besides the hole cut with an axe could not be repaired as readily as when bored with an auger.

A roof should never be stripped entirely of its roof boards, especially trussed roofs, as trusses, although able to stand an enormous weight will not stand alone or without being tied, braced, or fastened together, and when all bindings are removed they will topple over and fall.

### THE ONE GREAT CURSE.

Carelessness has been aptly termed the greatest curse of the American people. It is the cause of perhaps three-fourths of the fires that annually devastate this land of the free and home of the indifferent. There is a great call for influential men to take the lead in putting down the fire curse and its twin curse of carelessness. By taking thought a man may not add to his stature, we are told, but by taking thought mankind can rid itself of the careless-fire curse. Public sentiment, legislation and private custom will keep down the careless fire. This is not a problem merely for the insurance companies to solve. Its solution intimately affects every man and woman, boy and girl whose eyes fall on these lines. How many will heed the call to leadership to help bring the scorched public out of the wilderness of waste and indifference into the promised land of forethought and safety?—Southern Construction News.

"DO IT NOW" should be a slogan in every home and business where there is a fire hazard to be taken care of.

## Seen In The Daily Prints

### Carelessness the Contributing Cause in Most Fire Fatalities

### Flames Kill Child, Badly Burn Woman

#### Playing With Matches Fatal to 3-year-old; Blast Wrecks Another Home

A child is dead from burns suffered while playing with matches Sunday and an aged woman is in serious condition at the City hospital from burns received at her home yesterday when a kerosene stove exploded.

Three-year-old Buddy McDaniel, son of Mr. and Mrs. P. O. McDaniel, 831 North Fairview street, climbed on a chair to reach for matches. His clothing caught fire when he ignited one. His screams brought his mother, brothers and sisters, but all the clothing had been burned from his body. The child was taken to the St. Paul hospital and died at noon yesterday.

The explosion of a kerosene stove severely burned Mrs. Louis Johnson, and almost totally destroyed her home at 1011 Bradley street, causing a loss of approximately \$2,000 late yesterday. It was said last night at the hospital that she would recover.

The fire started when Mrs. Johnson, who is 71 years old, attempted to light a kerosene stove, the blast following. The aged woman was covered with burning oil. Neighbors turned in the alarm.—St. Paul Pioneer Press.—August 8.

### Boy Dies After Oil Fire

#### Employe, 15, Burned by Flames Razing Northfield Plant.

Northfield, Minn., July 13.—Louis Sande, 15-year-old employe of the Bartles Oil company branch here, died early today from injuries suffered when fire destroyed the company's plant last night in a spectacular six-hour blaze.

The boy and E. W. Haverland, local manager, were pumping gasoline from a tank car into one of the storage cars when a spark from the pumping motor ignited fumes of gasoline and caused an explosion, which hurled the two workers out of the building.

Haverland was severely burned, but will recover.

Outside help to aid in quenching the flames was hurried here from Faribault.

### Children Start Fire, One Dies in Flames

Ely, Minn., July 15.—While their mother was away, three children of Mrs. Emil Ahola left alone in the house, played hide and seek and also played with matches. Tenho Ahola, aged 10, was burned to death in the fire that followed. The boy ran to the garret to hide and was there trapped by the flames. Jack Einotti, who discovered the blaze, rescued the other two children.—Mpls. Journal.

#### TOTAL LOSSES FOR THE MONTH OF JULY, 1920.

	No. of Fires	Value on Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	29	\$1,935,330	\$55,180	\$1,785,250
Minneapolis .....	50	631,500	98,315	397,750
Duluth .....	7	368,300	2,300	229,400
Outside 3 Cities.....	94	1,229,175	426,937	413,000
Total .....	180	\$4,164,305	\$582,732	\$2,825,400
JULY, 1919.				
	No. of Fires	Value on Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	19	\$2,694,070	\$ 4,665	\$2,353,220
Minneapolis .....	32	1,273,000	18,586	1,031,500
Duluth .....	21	631,540	33,092	541,100
Outside 3 Cities.....	73	528,514	216,406	278,280
Total .....	145	\$5,127,124	\$272,749	\$4,204,100

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# SPECIAL FIRE COLLEGE EDITION

STATE OF MINNESOTA

# FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON Fire Marshal

Room 330, State Capitol

No. 16

Saint Paul

September 15, 1920

The Bulletin wishes to call the attention of mayors, presidents of Village Councils and other city officials to the importance of having their fire department represented at the Fire College to be held in St. Paul during the week of September 13.

It is desired to have two delegates from each department, the chief and one of his assistants. If it is impossible to send two men, the city should at least send the chief.

The instructions in modern methods of fire-fighting and information relating to fire prevention to be gathered here will be of inestimable value. Every chief who attends this gathering will return to his department with a broader vision of fire department and fire prevention work.

The work of the Fire College and the papers that will be presented and discussed at the Fire Congress will be of such an educational nature that no chief, no matter whether of a large city or a small town, can afford to miss it.

The department over which the chief presides will equally reap the benefit, and in consequence the city or town will be the beneficiary, and will find the efficiency of its department greatly increased. The money expended by the city in paying the expenses of its delegates to the Fire College will be money well invested, and will draw heavy interest in fire prevention.

**Leon L. Wolf of Cincinnati,  
Ohio.**

**"The Firemen's Friend"**

The firemen of the state, who had the privilege of attending the first Minnesota Fire College, held during the week of September 22, 1919, will be delighted to know that Mr. Wolf will be with us again this year, and will look forward to the pleasure of meeting their friend again.

Mr. Wolf, in his genial way, made a host of friends among the members of the first Fire College. He proved to be an untiring worker and an efficient instructor. Mr. Wolf is a prosperous Cincinnati business man, and Fire College instruction work is merely a side line, or rather a pet hobby. It is his recreation. He puts his whole heart and soul into the work, rendering his services gratis, and he gets results.



**CAPTAIN G. R. G. FISHER,**

Director of Bureau of First Aid,  
Northern Division, American Red  
Cross.

The department is fortunate in being able to secure the services of Captain Fisher to lecture on the subject of First Aid at the 1920 Minnesota Fire College. Captain Fisher has a broad knowledge of this work, having seen actual service both at home and abroad, and many firemen from throughout the state who had the privilege of attending the convention of the Minnesota State Firemen's Association held in the city of Moorhead during the month of June will remember the very interesting and instructive address by Captain Fisher at that session.



# PICTORIAL REVIEW OF WORK

ILLUSTRATIONS OF DEMONSTRATIONS AND PRACTICE IN FIRE  
AND OTHER FEATURES OF INSTRUCTION



Broom as emergency splint. Exercise No. 1.



Lashing hose line and nozzle to ladder to be used as cellar pipe.



Instructing class in use of tourniquet.



Exercise No. 2.



Cellar pipe in position ready for use.



Instruction in use of life net.



Rescue work, firemen's lift. Exercise No. 1.



Exercise No. 2.



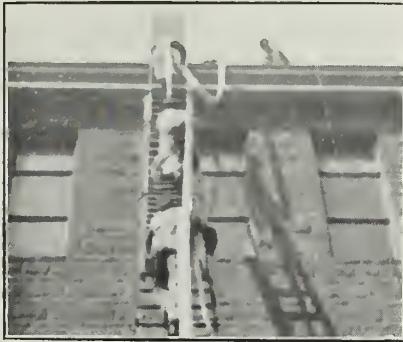
Exercise No. 3.

# 1919 MINNESOTA FIRE COLLEGE

AID AND RESCUE WORK—HOSE EXERCISE, LADDER EXERCISE  
GIVEN AT FIRST MINNESOTA FIRE COLLEGE.



Carrying Section of Hose, 1st Exercise



Carrying hose line up ladder.



Student Practice. Dead Man's Lift.



Second exercise.



Invalid Lift—Exercise No. 1.



Tying Knots—Double Bowlan.



Third Exercise—Both Hands Free.



Exercise No. 2.



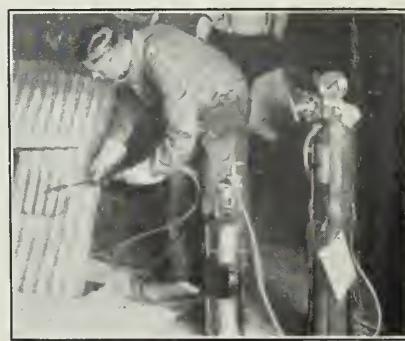
Ladder Work. Heel Lock Hold.



How method works on ladder.



Exercise No. 3.



Use of Cutting Apparatus.

THE MINNESOTA STATE FIRE COLLEGE HELD UNDER THE AUSPICES OF THE STATE FIRE MARSHAL'S DEPARTMENT AT THE ARMORY, CORNER SIXTH AND EXCHANGE STREETS, ST. PAUL, SEPTEMBER 13 TO 18, INSTRUCTOR LEON L. WOLF, OF CINCINNATI, ASSISTED BY CAPTAIN G. R. G. FISHER, DIRECTOR BUREAU FIRST AID NORTHERN DIVISION, AMERICAN RED CROSS. IT IS MOST IMPORTANT THAT EVERY FIREMAN DESIRING TO ENROLL IN THE CLASS BE AT THE ARMORY AT THE APPOINTED HOUR.

## MINNESOTA FIRE COLLEGE PROGRAM

### MONDAY, 10:00 A. M., AT THE ARMORY.

1. Paper on Fire College Work by Leon L. Wolf, Instructor.
2. Formation of class.
3. Physical exercises.
4. 1:30 P. M.

Lecture and demonstration on First Aid, Captain G. R. G. Fisher.

The triangular bandage and demonstration of its numerous applications.

Bleeding and how to control—Digital pressure, flexing and tourniquets.

Wounds and their treatment.

5. Rescue Work—Mr. Wolf: Fireman's lift.

Dead man's lift.

Dead man's lift with gas mask.

Invalid's lift.

Rescue work with life belt and life line.

Life net.

6. Ladder Exercises—Mr. Wolf: Raising and lowering of all single ladders.

Raising, lowering and carrying while raised 45, 50 and 55 ft. Bangor ladders.

Raising and lowering the 85 Areal.

### TUESDAY, 9:00 A. M.

1. Taking hose lines up and down ladders.

2. Anchoring hose lines on ladders and roofs.

3. 11 A. M.—Lecture on First Aid Work by Captain Fisher: Fractures, how to know, treat, and the improvising of splints. Dislocations, sprains, strains and bruises. How to handle the injured, removing clothing, lifting and carrying.

4. 1:30 P. M.—Pompier ladder.

5. Life gun and life lines.

6. Standard knots for fire department work.

### MANKATO MAY BE HOST.

It is rumored that Ben E. Bangerter, chief Mankato Fire Department, will be a candidate for Second Vice President of the Minnesota Fire Department Association at the time of the next annual meeting of the organization which is to be held in International Falls.

### WEDNESDAY, 9:00 A. M.

Hose Exercises—Mr. Wolf:

1. Taking hose lines up fire escape.
2. Taking hose lines up outside of building if there is no fire escape.
3. Roof lines.
4. Unconsciousness and its causes: Injuries, diseases, electric shocks, lightning, fumes, etc.
5. 1:30 P. M.—Lecture on First Aid by Captain Fisher: Poisons, emetics, antidotes, etc. Asphyxia, artificial respiration methods. Improvised stretchers, etc.
6. Hose exercises continued.
7. 3 P. M.—Ground Lines.
8. Deluge sets.

### FRIDAY, 9:00 A. M.

Hose exercises continued—Mr. Wolf:

1. Carrying the hose up ladders.
2. Anchoring the hose on ground.
3. Anchoring of hose lines on roof and ground.
4. 1:30 P. M.—Mr. Wolf:
5. Gas Masks.
6. Oxweld acetylene cutting apparatus.
7. Instructions in all classes of small extinguishers.

### SATURDAY, 9:00 A. M.

Mr. Wolf:

1. Demonstration of life line and life belt used to transport people from one building to buildings on the opposite side.
2. Review of all work.

**NOTE.**—All subjects will be lectured on and demonstrated by Messrs. Wolf and Fisher. Every man enrolling in the class should do so with the intention of attending every session and with his mind thoroughly made up that he is going through all work, participating in every evolution.

This would result in the 1924 convention being held in Mankato, which should appeal to every member of the organization, for Mankato has one of the best equipped fire departments in the state, with a personnel that cannot be beat.

Mankato never does things half

## Fire Prevention Congress

Thursday, September 16, 1920  
PALM ROOM, SAINT PAUL HOTEL,  
SAINT PAUL.

## PROGRAM

### 10:00 A. M.

Walter L. Akers, President, Conservation and Fire Prevention Association of Minnesota, presiding.

Community Sing led by Miss Lucille Holiday, War Camp Community Service, Minneapolis.

Conservation—Louis L. Law, Minneapolis.

The Fire Department Inspection Bureau—Geo. B. Gray, Minneapolis.

Importance of Uniform Hose Couplings—R. L. Daniels, Engineer, General Inspection Company, Minneapolis.

Fire Prevention Address—C. J. Doyle, Assistant General Counsel, National Board of Fire Underwriters, Springfield, Illinois.

Adjournment.

### 1:30 P. M.

Palm Room Saint Paul Hotel.

The Importance of An Effective Building Ordinance—Ira H. Woolson, Consulting Engineer, National Board of Fire Underwriters, New York.

1. Organization, Purpose and Methods of Underwriters' Laboratories.

2. Oil Hazards and Oil Fires—Mr. E. J. Smith, Engineer, Underwriters' Laboratories, Chicago.

Fires of Suspicious Origin—Russell Knepper, Esq., Special Assistant Attorney General, Ohio Fire Marshall Department.

Our Annual Ash Heap—Hon. John G. Gamber, State Fire Marshall, Illinois.

The Fireman's Relation to Fire Prevention—Captain J. J. Conway, Supt., Underwriters' Salvage Corps, Cincinnati.

way, proving itself always to be a most cordial host. Aside from this, Chief Bangerter has made good, and the Mankato Department has increased in efficiency under his direction. The Association would be well served in any duty that it might impose upon him as its Second Vice President.

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# SPECIAL STATE FAIR EDITION

## STATE OF MINNESOTA

# FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 17

Saint Paul

September 1, 1920

READ THIS, PLEASE. And then follow its good advice

## FIRE PREVENTION

What to do and what not to do

Be careful. It is better to be Safe than Sorry

### Things Not to do

#### to Prevent Fires

Don't put ashes in other than metal receptacles, and don't dump them where they will come in contact with combustible materials.

Don't hang electric light cords on nails.

Don't use wooden lockers.

Don't permit oily rags to lie around.

Don't let the fact that you are insured make you careless.

Don't use an open light when looking for escaping gas or in the presence of inflammable liquids.

Don't use sawdust in spittoons or to absorb oils.

Don't throw away lighted matches, cigars or cigarettes.

Don't use insecticides or liquid polishes in the vicinity of open flame lights. Many such compounds contain volatile inflammable oils.

Don't use kerosene, benzine or naphtha in lighting fires, or to quicken a slow fire—it may result in death.

Don't use gasoline or benzine to cleanse clothing near an open flame, light or fire.

Don't make bonfires of rubbish where the wind can scatter it. Burn it in a container.

### Things to do

#### To Prevent Fires

Keep waste paper, packing material and rubbish cleaned up, and remove from building at least daily.

Make frequent personal inspections for the Prevention of Fire.

Instruct and drill employes on what to do in case of fire.

Be careful about the use of matches.

Put up "No Smoking" signs, especially in hazardous sections.

Locate your nearest fire alarm box and learn how to turn in an alarm.

See that your electric wiring is standard and be careful in the use of electrical devices.

Have all smoke pipes and chimneys inspected and repaired by a competent person before starting fires for the winter.

Keep gasoline in safety cans and in a safe place.

Keep water barrels and pails filled and extinguishers charged.

Use only safe floor oils and sweeping compounds.

Feel your personal responsibility for possible loss of life and property by fire and act accordingly.

**State of Minnesota  
FIRE MARSHAL BULLETIN**

George H. Nettleton, Fire Marshal  
Office 330 State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire  
Prevention and Fire Protection

SAINT PAUL, SEPTEMBER 1, 1920

The Bulletin will be mailed to any address  
regularly upon request

**The Hazards of  
Private Electric Plants**

**B**ECAUSE of prohibitive expense only a few nearby farmers can connect with city plants; others must depend on private plants for electric light, heat and power. These systems are of low voltage, and the dangerous theory is quite common that therefore they are free from life and fire dangers. Neither of these dangers depend solely on voltage. A strong, well man may survive a severe electric shock; a slight shock may be fatal to one with a weak heart. Standing on a dry floor or a rubber mat, it may be safe to touch a knife switch or a brass socket standing on a wet floor or in a bath, this is dangerous.

In a building where there is nothing to burn, poor wiring may do no harm. Such is not the case in farm barns particularly. The dampness of the stock barn is destructive to wire insulation, and a short circuit may at any time ignite the gathered cobwebs. In the hayloft hay, straw, cobwebs and dust are usually in contact with wires, fixtures and unenclosed switches and fuse blocks. Under these conditions the slightest electric trouble may cause a disastrous fire. Conduit wiring is advisable in barns. All work should be done in strict conformity with the National Electrical Code. This is the standard throughout the land, and the legal standard of this state.

Farmers can do no better than to purchase these plants, installed from some known, reputable dealer, under contract that all work comply with said code. A reputable dealer cannot afford to let either death or fire come back to plague his conscience, because of incompetent work. Shun the man who tells you that these plants are free from danger and that expert knowledge is not needed to install them. Mr. Farmer, your buildings house ever-increasing values. You are not prepared to fight fire. Prevention is your only protection.

**A Timely Warning  
To Campers and Tourists**

**A LITTLE** fire is quickly trodden out; which being suffered, rivers cannot quench.

—Shakespeare



**PUT OUT YOUR CAMP FIRES**

Be careful with fire. A bit of carelessness on your part may result in a conflagration, causing great destruction to life and property. The great Moose Lake fire started from a number of little fires that had been carelessly set here and there in the woods. A forest fire is a terrible thing. It knows no bounds, nothing will stop it except hard rains or a change in the direction of the wind. A broad river or a mile wide lake is no hindrance. With the speed of an express train it rushes on, reducing everything in its path to ashes and leaving only death and destruction behind. It even obstructs the highways by delaying the rescue or the administration of first aid to its victims by destroying bridges and felling great trees across roads.

To those who love the outdoor life, the woods, the trees and the lakes and all that is close to nature, and to those who enjoy its restful and wonderful influences, it is a duty

to in every way protect and preserve it all in order that others may also enjoy it. Upon breaking camp, extinguish your fire, making sure that not a single spark is left behind. A few minute's effort on your part may prevent death and conserve property.

The act of a careless smoker in throwing away a lighted match or a burning cigarette or a cigar stub or the glowing coals of a pipe may result in untold damage. It is a temptation to throw a cigar or cigarette stub from a car window or an automobile as you drive along, especially at night when you can see it break into a thousand sparks as it hits the ground. The possibility of setting fire may not be so great at night, but the same thing happens when it occurs in the daytime, except that we do not notice it. When vegetation is dry and parched as it is in most parts of Minnesota today, there is no telling what will follow such a practice.

BE CAREFUL.

**Stop Burning Up Homes**

The housing problem is one of the great issues of the day. All unnecessary construction was forbidden during the war, and now that the restrictions have been withdrawn the high prices of materials and labor and industrial troubles have tended to reduce the amount of building. In many industrial centers newcomers are unable to get houses to live in, rents have gone up, and the situation has become so serious that state and municipal commissions are seeking a solution.

Why not stop burning up the existing buildings, if there are not enough to go around and more cannot be built under existing condi-

tions? Thousands of homes are burned each month, most of them through carelessness. If housing is so important, if homes are so hard to find, why not be careful with those that we have? Apply fire prevention methods. Be careful about matches, smoking, lighting and heating apparatus and gasoline. Clear out the rubbish, inspect the flues, watch the shingle roofs. Conservation is the order of the day, and if the shortage of dwellings will cause householders to be careful about the fire hazards of their homes one criminal cause of that shortage will be greatly reduced.

## Now Is The Time

About 65% of all fires that occur in our nation annually are dwelling house fires. More than 40% of these fires are strictly preventable and 12.4% of these originate from defective flues and another 7.3% from stoves, furnaces, boilers and their pipes.

Remember that these fires are strictly preventable; that their origin is due to carelessness, ignorance and neglect, because somebody failed in their responsibility by not inspecting and keeping in repair the heating plant, stove smoke flues or chimney. Free your own home from these hazards by making a careful inspection of all heating devices. Examine all metal smoke flues running between the heater and the chimney to see that they have not rusted through from corrosion and see that all joints are tight. If found defective they should be repaired or replaced at once. This will only take up a few minutes of your time now and possibly save you much hardship later on.

Have a reliable chimney sweep clean your chimneys before the cold weather sets in. Remember that by neglecting these things now you are inviting fire to visit the premises, and that you and your family may be routed out of bed in the middle of the night in sub-zero weather. Remember that homes are scarce.

Now is the time to give this your attention.

**A tree will make a million matches, but a match will start a fire that will burn a million trees.**

## LIGHTNING ROD A PROTECTOR.

The National Underwriter in a recent edition draws attention to the fact that the lightning rod as a protective agency against fire is undervalued. "Insurance agencies handling farm business," says the Underwriter, "which have not been convinced of the value of the lightning rod as a protection for farm property are few and far between, but now and then one finds them. It is not so surprising in view of the fact that general opinion in this country towards the lightning rod has been revolutionized only within the last fifteen or twenty years. But the lightning rod now occupies the same place with relation to protection of farm property as the automatic sprinkler does to municipal building protection, at least so far as reliability is concerned. The state fire marshals of the country are continually furnishing abundant evidence that lightning rods are first-class protection for farm property against destruction by lightning."

In installing this protection, however, it must be remembered that great care and skill are required and a poorly installed lightning rod is not only useless, but a great menace as well. Always be sure to employ none but competent men to do the work.

## Protect The Home From Fire

### Fires There Frequently Cause Loss of Life as Well as of Property

The great majority of the fires in the United States start in the homes. Many of these result in loss of life as well as the destruction of property, to say nothing of the sentimental considerations involved in the burning of a family's home and its associations. Most of this loss of life falls upon the women and children, who are the constant occupants of the home, while the men are usually there only at meal times and at night.

For that reason special effort should be made to interest women, as the home-makers and housekeepers, in fire prevention for the home and the family. They should be warned against carelessness in the use of matches, kerosene and gasoline, and shown the need of constant watchfulness as to flues, chimneys and heating apparatus, the danger of accumulations of rubbish in attics and cellars, and the importance of training their children to be careful about fire hazards. Gasoline should be used with extreme care, in the outside air if possible, and never in the presence of an open flame. Care should also be taken to shut the current off of electric irons and other household electrical devices when not in use.

Women are not so much influenced by statistics of the fire waste, appalling though they are, as by concrete examples of the results of carelessness as to fire hazards of the home. Subjoined are several newspaper extracts from recent issues, which might be added to indefinitely, which are published in the hope of causing the women to ask themselves: "What if that were my home?"

**Boston, Mass.**—Arthur and Martha Connolly, 2-months-old twins, placed by their mother yesterday in a basket on the roof of their home at 1107 Columbus avenue, were cooing softly in the sunshine, when a spark from a passing locomotive fell into the basket and set fire to it.

## The One Great Curse

Carelessness has been aptly termed the greatest curse of the American people. It is the cause of perhaps three-fourths of the fires that annually devastate this land of the free and home of the indifferent. There is a great call for influential men to take the lead in putting down the fire curse and its twin curse of carelessness. By taking thought a man may not add to his stature, we are told, but by taking thought mankind can rid itself of the careless-fire curse.

Martha died late yesterday afternoon at the City Hospital, and it is feared that her brother will not live. After Mrs. Connolly had placed her babies on the roof, she returned to her apartment to do some housework. A few minutes later her eldest child, Thomas, 6, went to the roof to play with his brother and sister, and found their basket afire.

**Hutting, Ark.**—In his foolish attempt to start a fire with gasoline, G. W. Howell is responsible for the death of Mr. and Mrs. John Q. Barlow and their daughter, Arcola, 20 years old, the parents and sister of Mrs. Howell. In combining gasoline with fire, an explosion followed, throwing gasoline over the beds in which three were sleeping, and they had no chance to escape. Howell himself was saved by jumping into the river, on which his house is located.

**Winchendon, Mass.**—Mrs. Adelaide Pierce, 80 years old, was burned to death in her home, three miles from the village, late this afternoon. She was alone in the house at the time, her son, George, with whom she lived, being away at work. Mrs. Pierce was preparing the evening meal and had filled the kitchen stove with wood. Sparks set fire to her clothing and to the woodwork of the room. Mrs. Pierce evidently was unable to beat off the flames, and when the firemen arrived she was dead.

**Salamanca, N. Y.**—Five persons were burned to death when fire destroyed the farmhouse of Robert Woodard in Morgan Hollow, near here, early today. The dead are Robert Woodard, 75 years old; Mrs. Alfred Holmes, 61; Bergen Robbins, 12; Marie Robbins, 8, and Mabel Woodard, 2 years. All of the occupants of the house were asleep when the fire started in the dining room, where some blankets were being dried out before a stove. So rapidly did the building burn that escape of the five was cut off. Three others who were in the house got out safely.

Public sentiment, legislation and private custom will keep down the careless fire. This is not a problem merely for the insurance companies to solve. Its solution intimately affects every man and woman, boy and girl whose eyes fall on these lines. How many will heed the call to leadership to help bring the scorched public out of the wilderness of waste and indifference into the promised land of forethought and safety?—Southern Construction News.

## *Seen In The Daily Prints*

### *Carelessness the Contributing Cause in Most Fire Fatalities*

#### **Flames Kill Child, Badly Burn Woman**

**Playing With Matches Fatal to  
3-year-old; Blast Wrecks  
Another Home**

A child is dead from burns suffered while playing with matches Sunday and an aged woman is in serious condition at the City hospital from burns received at her home yesterday when a kerosene stove exploded.

Three-year-old Buddy McDaniel, son of Mr. and Mrs. P. O. McDaniel, 831 North Fairview street, climbed on a chair to reach for matches. His clothing caught fire when he ignited one. His screams brought his mother, brothers and sisters, but all the clothing had been burned from his body. The child was taken to the St. Paul hospital and died at noon yesterday.

The explosion of a kerosene stove severely burned Mrs. Louis Johnson, and almost totally destroyed her home at 1011 Bradley street, causing a loss of approximately \$2,000 late yesterday. It was said last night at the hospital that she would recover.

The fire started when Mrs. Johnson, who is 71 years old, attempted to light a kerosene stove, the blast following. The aged woman was covered with burning oil. Neighbors turned in the alarm.—St. Paul Pioneer Press.—August 8.

#### **Hazards of Domestic Electric Devices**

One of the chief causes of the rapid increase in the number of dwelling fires, with resultant danger to women and children, is the multiplication of domestic electric devices, and especially of electric irons.

#### **Boy Dies After Oil Fire**

**Employee, 15, Burned by Flames  
Razing Northfield Plant.**

Northfield, Minn., July 13.—Louis Sande, 15-year-old employee of the Bartles Oil company branch here, died early today from injuries suffered when fire destroyed the company's plant last night in a spectacular six-hour blaze.

The boy and E. W. Haverland, local manager, were pumping gasoline from a tank car into one of the storage cars when a spark from the pumping motor ignited fumes of gasoline and caused an explosion, which hurled the two workers out of the building.

Haverland was severely burned, but will recover.

Outside help to aid in quenching the flames was hurried here from Faribault.

#### **Children Start Fire, One Dies in Flames**

Ely, Minn., July 15.—While their mother was away, three children of Mrs. Emil Ahola left alone in the house, played hide and seek and also played with matches. Tenho Ahola, aged 10, was burned to death in the fire that followed. The boy ran to the garret to hide and was there trapped by the flames. Jack Einotti, who discovered the blaze, rescued the other two children.—Mpls. Journal.

Most of these fires are due to defective insulation and carelessness in operation. It is evident that the public must be educated on these hazards, especially as regards changes in the wiring and leaving the current on irons not in use, and that the authorities should improve their electrical inspection methods. A loss of \$25,000,000 a year from

electrical fires, with hundreds of deaths, chiefly among women and children, is too heavy a toll to pay for the American habit of carelessness.

One of the remarkable developments of modern life has been the increase in the use of domestic electrical appliances. Housewives are looking for every possible labor-saving device, because of the difficulty in securing help, the appliance manufacturers are advertising widely, in order to sell their devices, and the electric light plants are also pushing their use as a means of increasing the sale of current. The result has been to introduce many serious electrical hazards into millions of homes, with a natural increase in the proportion of fires due to electrical causes from \$16,559,433 in 1916 to \$20,780,307 in 1918, while it is estimated that the loss in 1919 was \$25,000,000. Most of these were in homes, with serious danger to the lives of women and children.

#### **AMERICAN EXTRAVAGANCE**

The average annual American fire loss for the past ten years was approximately \$230,000,000; this is \$630,000 a day, or \$26,000 per hour or \$400 per minute—equivalent to a \$4,000 home destroyed every ten minutes. Compare a similar loss of \$230,000,000 per year in foodstuffs, wheat, corn or cotton, or funds from the United States treasury. The average annual per capita loss in six European countries for this period was about \$0.33; the average annual per capita loss in the United States and Canada is nearly \$3. This is \$15 per year for a family of five and does not include the cost of fire departments, which is as much more.

#### **WHY TAKE A CHANCE?**

Why take a chance? Gasoline vapor is heavier than air, consequently it will float along on the ground and may carry thirty feet, or more, and under favorable conditions ignite. One gallon of gasoline has substantially power equal to 83 to 88% pounds of dynamite. Gasoline will give off 130 times its bulk in vapor; and when vaporized will convert 1,560 times its volume of air into an explosive mixture, which will ignite from a flame or spark. Five gallons of gasoline will generate 8,000 cubic feet of gas; or enough to fill a room 20 by 40 feet and ten feet high. When ignited it immediately expands to four thousand times that space. This would cause a most terrific explosion.

## **NATIONAL PREVENTION DAY**

October 9 will be National Fire Prevention Day. The date is the anniversary of the great Chicago fire. It will be observed throughout the nation.

Every man, woman and child in Minnesota should enter into the campaign to rid the home, town and state of fire hazards.

Become a fire preventioner. Request that this bulletin be mailed to you regularly. Keep posted in matters pertaining to Fire Prevention and Fire Protection.

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# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 18

Saint Paul

October 1, 1920

## Proclamation

**W**E HEAR much today of the necessity of additional production. We hear too little of the necessity of the prevention of waste. The annual fire losses of the United States due to preventable causes are estimated at more than two hundred millions of dollars. The loss of life and the injuries sustained through such carelessness are beyond calculation. The yearly per capita fire waste in our country is about six times that of Europe. The need of the exercise of greater precaution here cannot be too strongly emphasized.

Now, therefore, I, Joseph A. A. Burnquist, Governor of Minnesota, realizing that the assuming on the part of our people of an increased responsibility in this matter will result in many benefits to our state, such as the lessening of the loss of life and the saving of our property and earning power and the lowering of insurance rates, do hereby designate October 9, 1920, as Fire Prevention Day, and urge its observance in our schools through proper exercise for the education of the children as to the dangers of fire and the enormous losses occasioned by its negligent use, and that on said day there be a general cleaning up by the removal of all debris and waste that constitute a fire menace, and in addition thereto that every effort possibly be made to educate the public in assisting to avoid the enormous preventable fire waste of the state and nation.

J. A. A. BURNQUIST,  
Governor of Minnesota.

## Fire Prevention Day October 9th

### How it should be observed

City and Village Officials urge observance of the day and encourage Fire Prevention in every way.

Civic organizations and Fire Prevention Committees Plan Program for the Day.

### Inspections by Fire Departments

Merchants, Manufacturers and Citizens should join hand in hand in cleaning up their premises and freeing the town from Fire Hazards.

Every school should conduct Fire Prevention Day exercises and hold fire drills.

Public meetings should be held in the town or community meeting place.

Boy Scouts should help in making inspections, cleaning up premises and distributing Fire Prevention day literature.

Clean up and remove— inflammable material from attic, closet, basement, store room and shed.

Clean chimneys, repair smoke flues, heating plants.

## Proclamation

**W**HEREAS, the destruction by fires in the United States involves an annual loss of life of 15,000 men, women and children and over \$250,000,000 in buildings, foodstuffs, and other created resources, and

Whereas, the need of the civilized world for American products to replace the ravages of the great war is specially great at this time, and

Whereas, the present serious shortage of home and business structures makes the daily destruction of buildings by fire an especially ridiculous matter, and

Whereas, a larger percentage of the fires causing the annual American fire waste may be especially prevented by increased care on the part of citizens;

Therefore, I, Woodrow Wilson, president of the United States, do urge upon the governors of the various states to designate and set apart Saturday, October 9, 1920, as Fire Prevention Day and to request the citizens of the states to plan for that day such instructive and educational exercises as shall bring before the people the serious and unhappy effects of the present unnecessary fire waste and the need of their individual and collective efforts in conserving the natural and created resources of America.

In witness whereof, I hereunto set my hand and cause the seal of the United States to be affixed.

Done in the District of Columbia this 7th day of September, in the year of our Lord, 1920, and of the independence of the United States, the hundred and forty-fifth.

WOODROW WILSON.  
President United States of America.

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**A "DIFFERENT" DAY.**

MOST of the days of special observance are days of commemoration, but Fire Prevention Day is one of warning; we look back to October 9, 1871, when the city of Chicago was in flames in order to learn not to do it again. Therefore, while most holidays are for the purpose of tying us up to something fine and noble in the past, Fire Prevention Day is devoted to turning our faces away from an unworthy past toward a better future. In short, it is progressive and educational.

It follows that Fire Prevention Day must be treated in no holiday spirit. It is far too important for that. It concerns itself with such measures as inspection, the cleaning up of premises, the removal of hazards, the instruction of school children and the arousing and the education of the public. It is the occasion of more official proclamations than any other holiday save Thanksgiving Day. It is observed with special programs in more schools than any other holiday save Christmas. It is the only holiday in which the fire departments of many cities regularly take part.

Fire Prevention Day has thus become a genuine factor in the welfare of the Nation, yet we cannot blind ourselves to the fact that fire loss remains inordinately high and still lying but little below the figures in the country's history.

**A SERVANT—NOT A FRIEND**  
(Suggestions for Teachers' Remarks)

FORTY-NINE years ago today the city of Chicago was in flames. The streets were full of terrified people who saw their homes and places of business being destroyed. Many were burned to death; many more were injured for life. Several miles of the city were turned into blackened ruins. It was one of the most terrible events in the history of the country; yet it started from a single tiny flame which might have seemed too small to accomplish any harm.

There is a story that this flame was the light in a lantern that was carelessly set upon a stable floor and kicked over by a cow. Whatever may be the truth of this story, it is certain that the little flame grew swiftly into such a tremendous blaze that the country will never forget the Chicago Fire. Now we are observing Fire Prevention Day upon its anniversary.

There is an old and true saying that "fire is a good servant, but a hard master." Fire cooks our food; it makes our houses warm in winter; it raises steam for the boilers that drive our engines; it serves man in many useful ways. Fire is so necessary that we must always have it about us, but—remember this—we must always consider it as our servant and never as our friend. Why? Because it can't be trusted. There is no flame anywhere so small that it will not break out of bounds at the first opportunity. However small and harmless looking it is ambitious to become a conflagration. If careless people forget its danger and give it the conditions for which it is always ready, it may become a terrible, raging fire within a very few minutes. Now here are four points which I wish to impress upon you:

1. That Fire, the servant, may become Fire the master and the destroyer at any moment, when it is trusted too far; therefore, people must never take chances with it.
2. That there is a fire every minute on the average, in the United States. Even now, while we are assembled here, fire is bringing sorrow and suffering to many people.
3. That nearly all of these fires are preventable and would never occur if people were sufficiently careful.
4. That children may easily learn how to make their homes and their families safe from such a danger.

We no longer think that we are doing our full duty when we merely fight the fires that occur; we know that we should prevent them from occurring. Nearly every fire is a rebuke and a disgrace. Every time you hear the fire bells, every time you see the smoke rolling up in the sky from some burning building, every time you read of a fire in the papers, you are pretty safe in saying to yourself: "Some one has been very careless; that fire was unnecessary; it should have been prevented." But let us not put all the responsibility upon other people. Have we earned the right to criticize them? Are we ourselves trying to be careful? Let us realize that we have our own part to play in this matter. Why, even the few of us who are gathered in this room can start this very day to make this a safer town to live in. We can learn how to turn in alarms. We can resolve not to carry matches or to play with fire. We can help to

clean up rubbish, because a clean town is apt to be a reasonably safe town. We can keep matches out of the reach of little children. We can learn to recognize unsafe conditions in our homes and in the premises of other people. Boys and girls have sharper eyes than older people; they can discover many things which older people have not yet noticed. In many towns they have been of great help to the fire department in reporting upon the hazards they have found. Nobody knows how many fires have thus been prevented, but certainly the number is large.

We all love our town and wish to become good and helpful citizens, therefore, remember this, for it is the greatest lesson of Fire Prevention Day: A careless person can NEVER be a really good citizen; he will always be a danger to himself and to those about him.

Now we are going to have a "trial of fire" in order that we may learn some of its lessons.

**A FIRE PREVENTION DAY**

**PROGRAM FOR SCHOOLS**

**B**ECAUSE October 9, 1920, falls on Saturday, the school observance of Fire Prevention Day will take place on Friday, October 8. Programs will, of course, be arranged according to the wishes of the teachers and the facilities of the schoolrooms.

**1. A Talk by the Teacher.**

**2. Practical Advice, including Fire Alarm Instruction, by a Fireman.**

Three additional items, which are desirable if time will permit, are:

**3. Girl's Essay on "Making Our Homes Safer."**

**4. Boy's Essay on "Making Our Town Safer."**

**5. "America."**

**6. A Fire Drill.**

It is advised that parents be invited to attend, since a valuable purpose of the observance is that of arousing the interest of the older people.

Conservation of timber, fuel and oil resources was never so imperative as today.—Minneapolis Journal of Aug. 27, 1920.

The unfortunate loss by the Northland Pine Company of 7,000,000 feet of lumber, enough to build 350 homes at a time when housing is short and lumber is high, calls new attention to the great losses that this country annually sustains through fire.



**T**HE observance of Oct. 9 as Fire Prevention Day began in the year 1911 and has spread until today it is practically a national event. Last year for example, it was designated by proclamations of governors of thirty-three different states, the mayors of many cities and a number of state fire marshals. Tens of thousands of school rooms held special programs; fire departments gave parades in which were exhibited floats, messages and warnings upon the subject of fire prevention; newspapers published fire prevention articles and cartoons; moving picture theaters flashed practical suggestions upon their screens; advertisements, posters and car cards were extensively used; circulars were distributed by the hundreds of thousands, and chambers of commerce, boards of trade, insurance men, Rotary and Kiwanis clubs and other factors in varying degree throughout the United States helped to build up the lesson of a day that has really become a great educational occasion.

The general character of Fire Prevention Day is three-fold:

First, that of arousing the public to a sense of the importance of the subject and of its own responsibility.

Second, that of instructing the public as to practical precautions to be observed.

Third, that of accomplishing definite physical results, such as cleaning up premises, promoting inspections, removing special hazards, etc.

There are many channels through which the public may be reached in order that the day may be properly observed and its prevention features brought home to the public generally. These include the newspapers, civic organizations, insurance companies, public officials, merchants and manufacturers and the schools. All those named are valuable aids and will gladly give the help required.

#### What Officials Can Do.

Let them recognize not only that fire destruction is a public evil, but that the conflagration menace is almost everywhere present. Proclamations by city, town and state officials will give the proper official background to an appeal for public co-operation. If the fighting of fire under official direction is a public duty, fire prevention is equally so.

#### What Fire Departments Can Do.

The departments in many cities, today, have fire prevention bureaus, but even where this is not the case, there is a growing disposition to enter into the spirit of Fire Prevention Day. In towns where such bureaus have not been established the State Fire Marshal suggests that Fire Pre-

vention Day of this year be made the occasion for the organization of such. Here are some further ideas that have been proved by practical experience.

An intensive inspection campaign: During the week ending on Saturday, October 9 the business and residential sections of the town should be visited by members of the uniformed force in order to discover, record and correct all accumulations of rubbish and fire hazards of all kinds.

A clean-up campaign: These inspections should be closely associated with a universal clean-up effort. The cutting and removing of grass and weeds adjacent to buildings is an important requirement.

Furnishing speakers for the schools: The chief of the fire department should get into contact with the local superintendent of education and arrange for firemen to appear upon the Fire Prevention Day programs of the different schools.

Educational parades: There is perhaps no more immediate way for focusing attention upon the lessons of Fire Prevention Day than that of a street parade of apparatus and floats. This display can be made as elaborate as ingenuity and funds will permit.

Miscellaneous suggestions: These include furnishing school children with Home Inspection Blanks, making use of posters, advertisements, car cards, etc., distributing circulars, staging ladder work and net jumping in a prominent section of the city, promoting store window exhibits, etc.

#### What Newspaper Can Do.

Editors are coming more and more to realize that fire prevention is essentially a matter of public importance. A concentrated attention to the subject during the week preceding October ninth, the use of news stories covering the local Fire Prevention Day plans of the fire department and schools, will be public service of a high order.

#### What Civic Organizations Can Do.

Chambers of commerce, boards of trade, Rotary and Kiwanis clubs and other organizations of a general civic character should throw their weight into securing the largest possible effectiveness for Fire Prevention Day.

Here are four Fire Prevention Day suggestions for all civic organizations:

(a) The immediate appointment of an aggressive Fire Prevention Committee.

(b) The raising of necessary funds for increasing the effectiveness of Fire Prevention Day exercises by the fire department, the schools and otherwise.

(c) The enlistment of cooperation from individual members in the matter of window displays, fire prevention advertisements, the installation of self-inspection systems, meetings of employees, messages upon pay envelopes, etc.

(d) The stimulation of all other influences for reducing fire hazard.

#### What Merchants and Manufacturers Can Do.

Install self-inspection systems, make up appropriate window displays, and carry Fire Prevention Day lines in advertising, insert fire prevention circulars in all packages, seal bundles and mail with Fire Prevention Day stickers, print appropriate warnings upon pay envelopes and put up fire prevention posters on the premises.

Wherever applicable, operations should be suspended for an hour upon Fire Prevention Day in order to hold special exercises.

#### What Theatres Can Do.

Most managers of motion picture and other theatres are entirely willing to cooperate in promoting Fire Prevention Day by displaying slides upon their screens. These may be secured for a small sum which may be donated by the chambers of commerce or other organizations or by some public spirited citizens.

#### What Boy Scouts Can Do.

It is stated in the Scout Handbook for Boys that "it is the duty of the Scout to know how to prevent fires." The organization has prepared a course in "firemanship" making it possible for its students to qualify for "merit badges" and imparting information of practical value. All scoutmasters are urged to get in touch with local fire departments and schools.

#### What Women's Clubs Can Do.

The National Federation of Women's Clubs has already put itself strongly on record in favor of fire prevention. Local bodies, whether members of the National Federation or not, can do much to promote fire prevention education in schools, the removal of the shocking fire hazards found in so many public school buildings and the instruction of housewives in home precautions.

Make October 9 a real Fire Prevention Day.

The day is not far distant when fire prevention will become thorough and scientific. Every smokestack will have its spark screen. Our forests will be guarded by adequate forces of forest wardens. Moreover, preventive measures will have to be supplemented by aggressive reforestation carried on by the states and the nation.

According to the report of the National Board of Fire Underwriters the American people lost last year through fires \$325,000,000. This is equivalent to \$3.13 cents for every man, woman and child in the country. Whether the property burned is insured or not, it means an actual loss in finished products or raw materials of \$900,000 every day.

# FIRE MARSHAL BULLETIN

## JUST THE THING WE HAVE

### BEEN PREACHING AGAINST

#### CHILDREN AND MATCHES

**Deputy Hitchcock Finds a Striking Example Which Might Have Proved Disastrous Had He Not Made the Discovery.**

Children and matches are a combination that has brought loss and grief to more than one happy home as the records of the past will attest. What a couple of youngsters with the ever handy match can do is graphically told in the following report made to the State Fire Marshal by Deputy Hitchcock.

"During my recent visit to Le Sueur Center, Minnesota, and on making an inspection of a large livery barn in the rear of a hotel I heard children talking inside of the barn and upon entering same, two small boys, ages about five years, ran out of a rear stall. My curiosity being aroused, I decided to investigate and upon doing so I discovered two little girls about the same age with a box full of matches which they were lighting. They had already set fire to the hay and straw on the floor and same was burning fiercely. After about five minutes' work I extinguished the blaze. This was on Friday and at that time a high wind was blowing. Had this fire continued to burn or if it had a start of ten minutes there is no telling what the results would have been as there were several frame buildings within a few feet of same.

The village water pump was undergoing repairs and the water pressure was way below normal at this time. While putting the fire out the two girls disappeared. After finding the two little girls and questioning them they told us that they had hidden the matches in the barn. After searching every stall we finally located the matches in a feed box. A boy had taken the matches from a local merchant and had taken matches to burn, in company with his playmates, and was lighting same.

During my experience with the department I have preached about the dangers of fire in that class of building by children playing with matches but this is the first time that I have walked into a building and found same burning from this cause.

If the two little girls had been in the place and the fire had gotten a good start their lives would have been in danger and had it not been discovered in time I believe that two little lives would have been snuffed out.

I have issued orders that all windows and doors in this barn be repaired, doors kept locked and children kept out of same."

## THE FIRE MENACE.

To the Editor of The Minneapolis Tribune:

Many fires are started in a mysterious way and no one seems able to determine the cause. We often notice that tourists, traveling by automobiles through the country, are accused of carelessness in leaving camping grounds without properly and effectually extinguishing their camp fires, which are afterwards fanned into raging forest or prairie fires by the wind. No doubt there are instances where this is true and every care should be used to obviate the possibility of starting fires in this manner. It has been often stated also that hunters and fishermen carelessly throw lighted cigars and cigarettes in the dry grass at the roadside which start fires, and no doubt fires are started by malicious persons with malice aforethought, but observation teaches me that many fires are started by sparks from locomotives along the right-of-way of railroads.

During this dry period, one who travels very much may see hundreds of spots along the railroads where such fires have been started and were either put out by section men or burned until they consumed the sunburned and dry grass in that immediate vicinity, and died out owing to a line of green vegetation around them.

If there is no law compelling railroad companies to use screens over their smoke stacks to prevent live coals of fire from being thrown out along their lines, there ought to be.

Threshers use such screens on their engines for if they did not the farmers would not allow the machines upon their farms.

At a time like this, when everything is so dry, we all should be particularly careful in handling fire, for the danger is very great.—W. T. Orcutt, Tribune, 8-20-20.

"At a time when increased production is of the first importance destruction of means of production continues on a great scale. Each year approximately \$300,000,000 in property values are being destroyed in the United States through fire. A large part of this value represents waste that can be prevented. Considerations which should appeal to every individual require that, even if conditions were normal, the endeavors which are being made to stop this needless waste, with its detriment to the public interest and its private burden for all citizens, should be redoubled. At a time when economy and conservation of our resources must be paramount, in order that every effort may have its full influence toward increasing production, it becomes the immediate duty of each person, each association and the whole nation to put an end to preventable waste through fire."

## THAT CHIMNEY FIRE.

Water should not be used to extinguish fire in a chimney flue, as it is liable to burst the flue or cause the chimney wall to crack. Neither should brick or such articles which would be liable to get caught in the flue be used.

To properly extinguish fire that is in a chimney flue, all the openings to the flue that are below the roof should first be closed up tightly so as to prevent the falling soot from flying about the rooms or premises and doing unnecessary damage. Then a bag of salt, a pail of coal, or a pail of sand, or other similar substances, should be dumped down the flue opening at the roof.

Salt extinguishes a chimney fire by chemical action, when it comes in contact with the fire, and coal or sand will carry the soot down to the bottom of the flue, where it can be removed.

Chemical powders, composed chiefly of bicarbonate of soda or similar salts, are very good to extinguish fire in a chimney flue, by throwing a handful of the same up the opening at the bottom and then closing it to prevent the soot from falling and scattering about.

An ounce of sulphur, lighted and placed in a stove, or at the bottom of the flue that is on fire, will quickly extinguish the fire with the fumes that ascend from it.

Another good method to extinguish fire in a chimney flue, where it is desired to remove the soot, is to get a dozen pieces of chain eight or ten inches long and with one-half or three-quarter inch links, tie them loosely together with wire, then attach to them a piece of the same kind of chain about ten feet long, and enough clothes line to reach from the top to the bottom of the flue. The bunched chain should then be dropped down at the bottom of the flue and pulled up and down several times, after which the fire will have been extinguished and all the soot will have dropped to the bottom. All openings to the flue at the bottom and below the roof should be closed up tightly in this case, also before dropping the chains, and they should not be opened until the soot has settled, after which it should be removed gradually and carefully so as to prevent it from flying about and causing unnecessary damage.

A blank pistol shot fired upward from the bottom of the flue in which there is fire or soot will loosen the soot and bring it down to the bottom, but this is not advisable, as the falling soot is liable to scatter about.

A small firecracker lighted and dropped down at the top of the flue is much better and less dangerous, but all openings to the flue below the roof should be closed when the latter method is resorted to.

14.84

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## STATE OF MINNESOTA

# FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

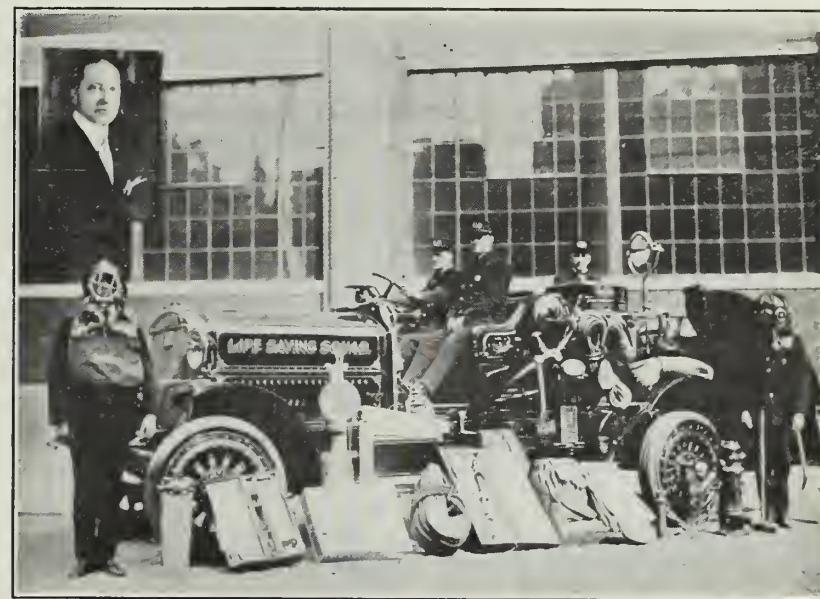
No. 19

Saint Paul

October 15, 1920

### CINCINNATI'S EFFICIENT LIFE-SAVING SQUAD WAGON.

The Cincinnati, Ohio, Fire Department is credited with having the most efficient and up-to-date life-saving squad wagon of any department in the country. The accompanying illustration which is herewith given is largely the idea and design of Leon L. Wolf, chief instructor of the Minnesota Fire College and physical director of the Cincinnati Fire Department and has as its equipment practically every known device for the saving and resuscitation of human life. Some of the work credited to it and similar wagons, which are now a part of every up-to-date fire department, borders on the miraculous. The Cincinnati squad wagon with its special life saving corps has been a feature of the Queen City department for some years and has been of incalculable value. It is credited with an average of sixty runs a month and has done some wonderful things in the way of rescue work. As an illustration the wagon recently made a run of ten city blocks, lifted a double truck street car from off the body of a man, administered first aid, took him to the hospital and was back in fourteen minutes. In another case the wagon was called to a point where a sand cave in had completely overed two boys. When taken out twenty minutes later, life was apparently extinct, but the squad in charge after working over them for forty-five minutes were able to restore them to consciousness and later complete recovery. In the last two years the wagon with its squad has been called in the cases of over one hundred and fifty drownings and has been successful in saving life in a number of them. The Cincinnati life saving wagon is manned by a thor-



oughly trained company of ten men working two by two and is equipped for every emergency. Every man connected with the squad is trained in the use of every implement and apparatus carried on the wagon and each man thoroughly understands first aid and the various methods of resuscitation.

Included in the equipment of the Cincinnati Life Saving Squad wagon is every known device for the rescue and saving of human life. Lifting jacks with a capacity of many thousand tons are carried, also life nets, cables and rope catches of various sizes, pulmeters for use in drownings and cases of suffocation, and the latest in smoke helmets. Its first aid equipment is a marvel in completeness and efficiency.

In practically every fire department of today first aid and rescue work is as much a part of the training of the average firemen as the saving of property from destruction

by fire and the Cincinnati Fire Squad Wagon as illustrated and described offers an excellent example of further completeness in this new line of endeavor. It is well worth study and adoption.

### FIRE DEMON'S WEEKLY TOLL.

It is said that every week in the year fire destroys in the United States alone:

- 1,600 Dwellings.
- 3 Theatres.
- 3 Public Buildings.
- 12 Churches.
- 10 Schools.
- 150 Apartment Buildings.
- 2 Hospitals.
- 26 Hotels.
- 2 College Buildings.
- 3 Department Stores.
- 2 Asylums.
- 2 Jails.

The total of this destruction averages almost \$10,000,000 a week, but worst of all is the toll in human life. Each week 300 lives are sacrificed to the ravages of fire.

This vast waste of life and property is due to carelessness and improper fire prevention and protection.

# FIRE MARSHAL BULLETIN

## State of Minnesota FIRE MARSHAL BULLETIN

**George H. Nettleton, Fire Marshal**  
Office 330 State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

SAINT PAUL, OCTOBER 15, 1920

The Bulletin will be mailed to any address regularly upon request

### FIRE PREVENTION DAY.

THE observance of Fire Prevention week throughout Minnesota this year was most gratifying. Not since the selection of the anniversary of the great Chicago conflagration as a day for general reflection and personal prevention work as it relates to the fire fiend, has interest been so keen or so much preventative activity shown.

Following the appeal of the President of the United States and Governor Burnquist for the proper observance of October 9 as Fire Prevention Day, many mayors and executive officials throughout the state issued similar proclamations. In answer, parades were featured by many fire departments, fire prevention exercises were held in the schools, fire prevention literature distributed and the day given over to property inspection and correction of fire hazards. Tons of inflammable refuse were removed and many defective conditions eliminated.

In the city of St. Paul a most extensive campaign was carried on under the direction of the Fire Prevention Committee of the St. Paul Division of the National Safety Council, working in conjunction with the Fire Marshall's department. Under this committee a number of sub-committees were appointed to carry on certain features in connection with the campaign as follows:

A speakers' committee consisting of ten business men and five firemen in uniform, was organized; the business men spoke at midweek meetings of Commercial Clubs and Civic organizations, and in the movie theatres; the firemen talked to the children in the public schools on fire prevention.

All publicity was handled by another sub-committee which distributed five hundred street-car cards, three thousand window cards, five thousand auto wind-shield stickers and seventy-five thousand enclosures bearing fire prevention warnings, which were distributed among the department stores of the city to be enclosed with or attached to bundles going out during fire prevention week.

The window display managers cooperated with the committee by preparing a most attractive window display in many of the down-town windows.

Fire Prevention exercises and fire drills were held in the schools, and the St. Paul Dispatch and Pioneer Press conducted a contest offering cash prizes for the best essays on fire prevention by school children. Property inspection was general and participated in most effectively by the school children of the city.

The Boy Scouts and members of the City Fire Prevention Bureau aided the publicity committee in getting out the literature, and one of the most interesting features of the campaign in the Capitol City was the instruction given in the matter of turning in fire alarms, conducted under the direction of Chief Niles of the Fire Department, and Superintendent McCauley of the Fire Alarm Bureau.

This was carried on by the use of a complete fire alarm equipment consisting of the two types of boxes used in the city, the key box and the keyless box, an indicator and a gong, which equipment was mounted on a board and attached to the side of a fire truck. This truck manned by firemen visited each of the public schools where the pupils were instructed in the use of the boxes. More than two weeks was given to the task and it is needless to say that the children took a keen interest in this feature.

On the Iron Range many towns and villages inaugurated a fire prevention week, and through page advertisements in the local papers gave its observance a legal standing.

The cleaning of chimneys was made a special feature and men provided for the work. Fire Department parades and school exercises were in many instances most elaborate.

Hibbing, Virginia, Bemidji and other cities in the northern part of the state extended the campaign for several days, making the week one long to be remembered.

That people are awakening to the frightful fire loss in their midst, and to the fact that back of it all rank carelessness is the greatest cause, is shown in the late day tendency to conform to the ordinary precaution as promulgated by those interested in fire prevention.

Rubbish piles are not as common as they once were, and tumble-down shacks are becoming scarcer each year as is found in making general town inspection.

Fire Prevention Day, though less than ten years old, has become a National event. It has come to stay. It is becoming more popular with each succeeding year, but in order to attain the greatest results, we should each of us resolve to observe not only October 9 as Fire Prevention Day, but do everything to prevent fire the other three hundred and sixty-four days in the year.

### MAKE YOUR HEATING APPARATUS SAFE.

Before stoves and furnaces are started up in the fall they should be carefully inspected, together with the smoke pipes, flues, etc. This may save your home and the lives of your family. Sixty-five per cent of all the fires occur in dwellings, and defective flues and heating apparatus are responsible for most of these. The general rules for the safeguarding of domestic heating appliances are as follows:

Examine smoke pipes, to see that they have not rusted through, and that joints are tight.

Be certain that there are no cracks in the chimneys or flues, and that they are cleaned out regularly.

Place stoves, furnaces and pipes far enough from walls and woodwork to avoid overheating.

Cover the nearest wooden surfaces with sheet asbestos, sheet iron or tin; if iron or tin is used, leave an air space behind it.

Where stove-pipes or heating pipes pass through walls, enclose the pipes in galvanized iron, double walled, ventilated thimbles at least twelve inches wider than the diameter of the pipes.

Protect the floor beneath the stove with sheet metal, and have it extend forward at least twelve inches directly beneath the door to the ashpit.

Surround the base of the furnace with brick, stone or concrete.

Fix a guard about the pipe in the attic, so nothing may be stored against it.

Never pour kerosene into a coal or wood stove, even when the fire is out.

Never put ashes into wooden boxes or barrels; use a strong metal can.

Study the drafts and dampers.

Do not let the stove or pipes become red hot.

Keep stoves, furnaces, flues and chimneys clean.

Inspect the chimneys and flues to be sure that they are sound.

Do not dry wood in an oven.

Do not hang wet clothing too near to a stove.

Keep curtains and other cloth away from stoves and pipes.

### THE GREAT FOREST FIRE.

October 12 last was the second anniversary of the greatest conflagration in the history of Minnesota or the Northwest. On that date, Oct. 12, 1918, occurred the great Minnesota forest fires in which 1500 lives were lost, \$50,000,000 in property destroyed and an area many miles square devastated. "The greatest conflagration since San Francisco" is the way the historians speak of the great blaze. Since the fire, new villages and towns have sprung up, reforestation has been started and the blackened acres have given way to the green of nature.

**PREVENTION CONGRESS AND FIRE COLLEGE A SUCCESS.**

THE annual meeting of the Minnesota Fire Prevention Congress and the State Fire College held in St. Paul this year proved to be a success. A splendid programme was carried out. The attendance was excellent and more than unusual interest shown in the addresses and papers given in connection with the congress. Modern fire fighting methods as demonstrated at the fire college were most instructive.

The Fire Prevention Congress which was held in the Palm Room of the St. Paul Hotel, Thursday, Sept. 16, was attended by several hundred delegates. Walter J. Akers, president of the Conservation and Fire Prevention Association, presided and in a brief talk reviewed the activities of the year and the necessity of continued co-operation and effort. The fire prevention movement, he said, was gaining and he complimented the delegates on their sacrifice of time and money for its advancement.

"The Fire Department Inspection Bureau" by George B. Grey of Minneapolis was a most interesting and instructive paper and provided the delegates in attendance with an insight into a most important, but little known fire prevention activity. Equally in importance was a talk on "Fires of Suspicious Origin" by Russell Knepper, special assistant attorney general of the Ohio fire marshal's department.

Of much interest to the congress in view of the advanced steps in hose coupling standardization as taken by the Minnesota Fire Marshal's department was a paper on "The Importance of Uniform Hose Couplings" by R. L. Daniels, engineer of the General Inspection company of Minneapolis. The great need of standardization and the startling absence of such in Minnesota was graphically pointed out by the speaker. He commended the state department for its activity in behalf of uniformity and expressed the hope that there would be co-operation on the part of fire department officials generally. In order, E. J. Smith, engineer of the Underwriters' Laboratories, Chicago, spoke on "Oil Hazards and Oil Fires."

"Fire Prevention, Fire Protection and Fire Extinguishers was ably discussed by Leon L. Wolf of Cin-

cinnati. Mr. Wolf was the chief instructor at the Fire College held in connection with the congress and his talk conveyed much in the line of valuable information. One of the features of the gathering was a community sing led by J. R. Batchelor of the Duluth public schools.

The Minnesota Fire College launched a year ago under the direction of the State Fire Marshal was again a feature this year with Leon L. Wolf, of Cincinnati, as instructor

in charge. The college was held at the St. Paul armory and the enrollment was in every way satisfactory. To the delegates in attendance at the Fire Prevention Congress, the exercises as conducted at the college were a never failing source of interest.

**GET READY FOR WINTER.**

Winter is not so far off. Now is the time to play "safety first" with all heating systems, furnaces, stoves, grates, etc. Be sure that your chimneys and flues are safe.

**BUILDINGS CONDEMNED DURING THE MONTHS OF**

**JUNE, JULY AND AUGUST.**

Owner	Location	Kind of Buildings
Otto Bremer. Minneapolis Brewing Co.,	Taylors Falls, Taylors Falls, <b>St. Paul,</b>	Walls Hotel
Axel Liljedahl, Jos. and Mary R. Rothwell, Hubert and Mary Krenz, Martha N. Barnes, Margaret Flanagan, Mary J. Valentine, Conn. Mutual Life Ins. Co., Jacob Schmidt Brewing Co., Barrett & Zimmerman, Conrad and Eva Wurm, Lewis N. Sickels,	1445 Berkeley Ave., 145 E. 9th St., 263 W. University Ave., 307 Walnut St., 310 Sherman St., 1457 Edgerton St., 302 Sherman St., 452 Wells St., 413 Prior Ave., 407 Neiderhoffer St., 705 Conway St.,	Dwelling Machine Shop Barn Barn Partly burned Barn Barn Barn Carpenter Shop Barn Barn Barn
Andrew Ness, David Turke, G. F. Gyldenberg, Chas. Erickson, John Olson, G. G. Dickerman, L. S. and L. Loeb & Co.,	318 So. 1st St., 27½ So. 1st Ave. E., 22-24 E. 4th St., 1005 E. 3rd St., 2412 W. 1st St., 1538-44 W. Michigan St.,	Dwelling Barn Barn Barn Barn Foundry Barn
W. S. Dawley, G. C. Barry Catherine Hauser, John Hienich, J. J. Filiatrault, M. C. McDonald, L. D. Mizu, Sid Badorn, Minneapolis Brewing Co., Chester Decker, D. C. Robinson, Anthony Schwoboda, Ellen Elach, Jacob Van Rhee, Nathan Lumelsky, P. McGargas, Mrs. C. J. Hanson, Mrs. J. W. Mathews, E. A. Bartel, Kotsmith Bros., James Malloy, A. C. Wall, Sarah Desmond, Mrs. John Dailey, Helen Ravey, James Flynn, Franklin J. Ryther, John Lamp, Chas. Statler, O. H. Lehman, G. G. Halvorson, E. G. Leach, Ole A. Sandlien, John Gillan, Albert J. Peters,	<b>Duluth,</b> 318 So. 1st St., 27½ So. 1st Ave. E., 22-24 E. 4th St., 1005 E. 3rd St., 2412 W. 1st St., 1538-44 W. Michigan St., <b>Minneapolis,</b> 811 Sixth St., 1529 5th St. No., 200 E. Hennepin, Gilbert, Gilbert, Proctor, Lake Wilson, Proctor, Bethel, Austin, Frazee, Frazee, Frazee, Milaca, Winona, Fergus Falls, Fergus Falls, Fergus Falls, Dodge Center, Foley, Le Sueur Center, Hayfield, St. Peter, Motley, Motley, Sauk Centre, Stewartville, Stewartville, Preston, Blue Earth, Bricelyn, Verndale, Butterfield, Chatfield, Cold Springs,	Barn Barn Barn Blacksmith Shop Dwelling Barn Repair Shop Dwelling and Barn Blacksmith Shop Dwelling Livery Barn Dwelling Garage Store Livery Barn Barn Barn Livery Barn Store Dwelling Dwelling Barn Barn Dwelling Dwelling Barn Shed Shed Store Restaurant Warehouse Vacant Building Vacant Building Blacksmith Shop Blacksmith Shop

# FIRE MARSHAL BULLETIN

## FIRES FROM LIGHTNING.

"Struck by lightning" and "building not rodded" are not uncommon features of the fire loss reports for this time of the year. Fortunately the loss of property from this source for Minnesota has been small so far, but this fact is no excuse for neglect in respect to the proper rodding of all farm buildings and isolated structures. In several instances the complete destruction of barns and their contents have been reported.

That lightning rods are a protection from lightning has been demonstrated time without number. In Minnesota, September and the early part of October is a period of dread for the farmer. Thunder storms are frequent and the accompanying lightning is generally of the destructive kind. Stacked grain and hay mows are common objects of its wrath and not unfrequently unprotected buildings are struck. In nearly every instance the loss is complete as fire protection is generally remote.

In September more than a dozen fires due to lightning were reported to the state fire marshall. In every instance the lack of lightning rods was noted. This condition is without excuse for not only has the food supply of the nation suffered, but a condition has been established that makes the reduction of insurance rates on such structures impossible.

America's per capita expense of \$3.13 for fires is very large, compared to England's 16 cents, or Germany's 25 cents, or France's 55 cents.

The National Board of Fire Underwriters, which has been tabulating the causes of fires, investigated the electrical fires reported during a typical week recently and found that of 540 fires, 252 were caused by flat irons, 82 by defective cords and 206 by all other causes. The great hazard of electric flat irons is that they are so frequently left standing with the current on, and although numerous devices have been developed to prevent this, they have not yet been made fool-proof. Misuse of properly-installed electric cords by amateur electricians is also a cause of fires. Of the 206 miscellaneous electrical fires tabulated during the typical week referred to, 76 were in attics and basements, showing the effects of tampering with the wires in efforts to make extensions. That electric irons constitute the principal hazard, both because of their inherent dangers and their unusually large number, is shown by the records of one of the important electric plants which made a tabulation of the domestic devices in use by its customers. This showed that 88 per cent of the customers had electric irons, 18 per cent had toasters, 10 per cent washing machines, 9 per cent vacuum cleaners and 4 per cent had percolators.

## TOTAL LOSSES FOR THE MONTH OF JUNE, 1920.

	No. of Fires	Value on Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	26	\$2,633,150	\$24,320	\$1,466,300
Minneapolis . . . . .	31	6,352,100	102,720	5,508,850
Duluth . . . . .	9	58,990	7,306	28,900
Outside Three Cities . . . . .	55	1,043,510	459,011	553,705
Total . . . . .	112	\$10,087,750	\$593,357	\$7,557,755

## JUNE, 1919.

St. Paul . . . . .	12	\$622,400	\$4,460	\$585,750
Minneapolis . . . . .	36	1,392,760	30,995	1,216,063
Duluth . . . . .	12	155,075	11,225	104,600
Outside Three Cities . . . . .	46	205,576	96,704	95,133
Total . . . . .	106	\$2,375,811	\$143,384	\$2,001,546

## TOTAL LOSSES FOR THE MONTH OF JULY, 1920.

	No. of Fires	Value on Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	29	\$1,935,330	\$55,180	\$1,785,250
Minneapolis . . . . .	50	631,500	98,315	397,750
Duluth . . . . .	7	368,300	2,300	229,400
Outside Three Cities . . . . .	94	1,229,175	426,937	413,005
Total . . . . .	180	\$4,164,305	\$582,732	\$2,825,405

## JULY, 1919.

St. Paul . . . . .	19	\$2,694,070	\$4,665	\$2,353,225
Minneapolis . . . . .	32	1,273,000	18,586	1,031,500
Duluth . . . . .	21	631,540	33,092	541,100
Outside Three Cities . . . . .	73	528,514	216,406	278,284
Total . . . . .	145	\$5,127,124	\$272,749	\$4,204,109

## FIRE LOSSES FOR MONTH OF AUGUST, 1920.

	No. of Fires	Value on Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	34	\$2,015,150	\$21,410	\$1,662,250
Minneapolis . . . . .	50	2,053,200	251,340	1,473,850
Duluth . . . . .	10	1,527,050	24,600	1,328,140
Outside Three Cities . . . . .	69	1,551,515	261,922	339,739
Total . . . . .	163	\$7,146,915	\$559,272	\$4,803,979

## No. of Inv. 4

	No. of Inv. 4			
St. Paul . . . . .	22	\$1,060,710	\$15,880	\$772,965
Minneapolis . . . . .	49	2,657,250	56,615	1,809,850
Duluth . . . . .	10	559,900	16,555	521,300
Outside Three Cities . . . . .	79	581,825	274,877	375,123
Total . . . . .	160	\$4,859,685	\$363,927	\$3,479,238

## FIRE LOSSES FOR MONTH OF SEPTEMBER, 1920.

	No. of Fires	Value on Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	34	\$879,950	\$84,925	\$512,810
Minneapolis . . . . .	46	1,695,250	57,676	1,492,950
Duluth . . . . .	10	84,625	6,250	67,900
Outside Three Cities . . . . .	68	510,135	299,917	240,380
Total . . . . .	158	\$3,169,960	\$448,768	\$2,314,040

## SEPTEMBER, 1919.

St. Paul . . . . .	26	\$230,610	\$27,055	\$154,700
Minneapolis . . . . .	43	981,025	140,895	768,217
Duluth . . . . .	15	255,900	15,574	158,350
Outside Three Cities . . . . .	68	412,238	117,622	249,150
Total . . . . .	152	\$1,879,773	\$301,146	\$1,330,417

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# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON Fire Marshal

Room 330, State Capitol

DEC 9 1920

No. 20

Saint Paul

November 15, 1920

## A HOME BUILT LIKE A BATTLESHIP

**I**T SEEMS a far cry from a super-dreadnaught of Uncle Sam's navy to a suburban home recently built in a neighboring state. However, engineering principles identical to those developed in the evolution of

enemy. To the points vulnerable to the screaming shells must obviously be given the greatest protection. But economies must be practiced in the navy as well as in housebuilding, and the marine engineer seeking to make the vessel practically invulnerable to all of the enemy's shells has judiciously put the armor where it will do the most good.

When Architect John Reed Fugard, a member of the American Institute of Architects, designed a home for himself, he was keenly alive to the fire hazard.

He is a firm believer in fire protection at a cost commensurate with the lessened risk of suburban architecture. He knows he must build his floors and partitions of wood for the sake of economy but he realizes

that the wood in some parts of the house must have a protection that would prevent any blaze from setting the wood on fire for over an hour.

Where the battleship is protected by armor from high powered shells that are aimed at certain vulnerable points, the home must, of necessity,

be protected with fire resistive materials where the fires are most likely to start. The naval engineer knows from bitter experience that the portions of the ship adjacent to the engines and boilers must be heavily armored to prevent explosion if hit there. On the other hand, the architect knows that possibility of fire is reduced if the part of the home over the heating plant is plastered over metal lath. The destruction of an ammunition hoist means the silencing of a battery of great guns. In the home, a fire destroying the staircase prevents the firemen reaching the upper story, and imperils the lives of the occupants, especially in a night fire.

Metal lath was used as a base for plastering over the vulnerable points, listed on page one. In portions of the house where little or no fire hazard exists, ordinary lath was used.

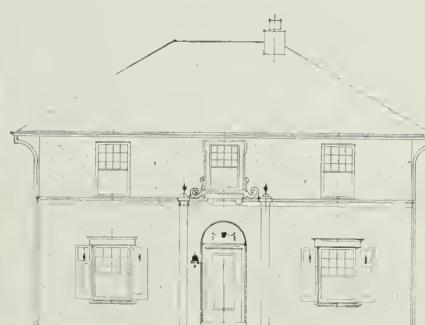
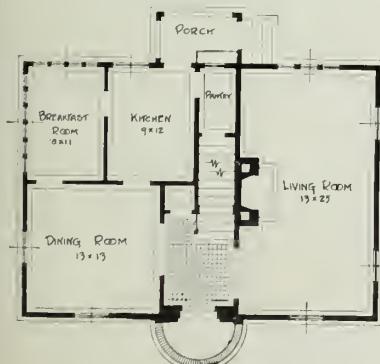
Now is the time to follow the lead so well marked by Architect Fugard. The next decade will see many houses built like a battleship. The marine engineer saves the expense of extremely heavy armor throughout by using it in vulnerable points. The architect makes the home invulnerable to fire and increases the cost of the home but 1% by the same sound reasoning.

Surely the added security of living in a home just as vulnerable to fire as a battleship is to 16-inch shells is worth deep consideration of an economical method of fire protection.

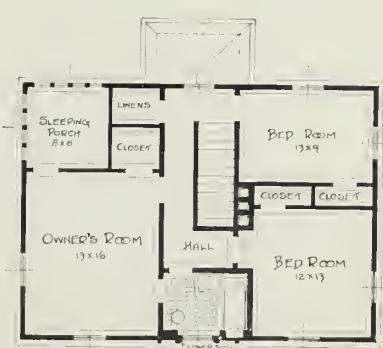


the battleship to its present day supremacy on the sea were followed in the design and construction of the house which is herewith illustrated.

Naval engineers have, out of necessity, been guided by economy in the protection of the modern ship from the speeding projectiles of the



FRONT ELEVATION



**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330 State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

SAINT PAUL, NOVEMBER 15, 1920

The Bulletin will be mailed to any address regularly upon request

**Fire Prevention Day at Hibbing.**

**F**IRE Prevention Day exercises as conducted by the village of Hibbing were most complete. The programme carried out was under the direction of Chas. McIlhargey, chief of the Hibbing fire department, and included numerous activities in an educational way.

Gov. Burnquist's proclamation was read in all the public schools, fire prevention cards were delivered to all homes by boy scouts, an essay on fire prevention was read from the pulpits of a number of churches and special fire prevention slides were run in all the local movie picture theatres. Page advertisements calling attention to Fire Prevention Day and requesting observance were carried in all the local papers.

There was a parade by the fire department, addresses by local officials and special visits by fire wardens covering property within the village limits. "Clean Up," was the slogan and it was generally observed.

**War vs. Carelessness**

In 18 months of the bloodiest and most terrible war the world has ever known, 40,000 Americans lost their lives amid the hail of billions of scraps of steel and leaden balls.

In one year—every year, 20,000 Americans are killed by fire.

There was a reason for the loss in battle. There is no excuse for the loss at home.

The loss of 40,000 was to make the world safe for posterity; the loss of 20,000 is due to carelessness; it is the suicide of ignorance.

**High Cost of Building**

Forest fires raise cost of lumber. In other words, lumber goes up in smoke.

Forest fires cost over \$30,000,000 a year.

**Get Ready For Winter**

Winter is here. Now is the time to play "safety first" with all heating systems, furnaces, stoves, grates, etc. Be sure that your chimneys and flues are safe.



**Squad Wagon Equipment**

The Cincinnati Squad Wagon illustrated and described in a late issue of the Fire Marshal Bulletin has excited considerable interest and for the benefit of departments desiring more information concerning its equipment a complete list of the same is herewith given:

List of Equipment carried on Life Saving Squad No. 52.

- 1 Shut off gas key
- 100 ft.  $\frac{3}{4}$ -inch hoisting rope
- 2 No. 2 Barret Jacks
- 2 Hydraulic Jacks
- 1 Leather bucket and sponges
- 3 Gal. Extinguisher
- 1 J. & M. Extinguisher
- 1 Life Gun 150 ft.  $\frac{3}{4}$ -inch rope
- 1 Portable Telephone
- 2 Lung Motors
- 1 Vajen Helmet
- 3 Drager Helmets
- 2 Leather pillows for Lungmotors
- 2 Wool Blankets
- 1 50-Gal. Chemical Tank
- 250 ft. one-inch line (hose)
- 1 Detroit Door Jam
- 1 Cadet Carbic Light
- 3 pairs water proof pants
- 1 pair rubber gloves
- 1 Acetylene Steel Cutter
- 1 Oxygen tank 50 cubic feet
- 1 250 lb. Acetylene Gas tank 50 ft. line
- 1 Hand Ax
- 1 Four-inch Stop Block
- 1 Bresnan roof roller with tie back line
- 2 100 ft. lengths  $\frac{3}{8}$  inch rope for signal (Drager)
- 1 Complete kit of tools for machine
- 1 20 ft. bangor ladder
- 21 ft.  $\frac{1}{2}$ -inch galv. pipe and grap-

pling hook for cistern and vaults

- 2 Heavy grappling hooks and 50 ft.  $\frac{3}{8}$ -inch rope for each
- 2 20 ft.  $\frac{1}{4}$ -inch rope for floats
- 1  $\frac{3}{8}$ -inch Larkin nozzle
- 1 Grether flash light
- 2 Rayo Lanterns
- 1 Electric Klaxon
- 2 Bathing Suits
- 2 Browder Life Nets
- 1 3-inch by 1-inch reducer (pluge)
- 1 3-inch by  $2\frac{1}{2}$ -inch reducer (pluge)
- 1 15-inch copper shoe horn for releasing child's foot from stop boxes
- 1 10-ft. shutter hook
- Kit of tools, cross and rip saw, keyhole saws, hack and extra blades, trimo wrench, sugar bit 2-inch,  $\frac{3}{4}$ -inch double, single and snatch blocks with 40 ft. stretch of rope. Set Chisel 2-inch, 12-lb. sledge, 2 axes, 2 picks, 2 shovels, heavy cross bar and small hand crow bar, also First Aid Kit presented by Mr. Leon Wolf, January, 1919, containing the following articles:
- Bandages
- Gauze of all sizes
- Splints
- $\frac{1}{4}$  U. S. P. Iodine
- Tourniquets
- Carron Oil
- Pieric Acid Gauge
- Aromatic spirits of ammonia
- Pearson Creolin
- Compress bandages
- Triangular bandages
- $\frac{1}{2}$  doz. towels, cotton, etc.
- The machine is an Ahrens-Fox Model 16-849, weight 12,700 pounds, pneumatic tires, front 38 by 7, rear 40 by 8, the cost without equipment was \$6,693.50 in 1918.

**SUGGESTED FIRE ORDINANCE FOR SMALL MUNICIPALITIES**

*Compiled by the National Board of Fire Underwriters and endorsed and adopted by the Minnesota State Fire Marshal's Department as a standard for small towns and villages.*

*Because of its length, the code will be published in a series of installments.*

**T**HIS suggested ordinance providing for fire limits and the construction and equipment of buildings is an abbreviation of modern requirements representing best practice in building construction. It has been compiled with special reference to the necessities of small towns. It is designed to arrest present hazardous practices and to serve as a reasonable regulation of ordinary building construction in communities where congestion of values is not abnormal. The first installment appeared in Bulletin No. 7.

**ORDINANCE PROVIDING FOR FIRE LIMITS, AND THE CONSTRUCTION AND EQUIPMENT OF BUILDINGS IN SMALL TOWNS AND VILLAGES.**

**Section 24. Wooden Beams Separated from Masonry Chimneys.**—No wooden beams or joists shall be placed within 2 inches of the outside face of a chimney or flue, whether the same be for smoke, air or any other purpose.

No woodwork shall be within 4 inches of the back wall of any fireplace.

All spaces between the chimney and the wooden beams shall be solidly filled with mortar, mineral wool or other incombustible material.

The header beam, carrying the tail eams of a floor, and supporting the rimmer arch in front of a fireplace, shall be not less than 20 inches from the chimney breast.

No wooden furring or studding shall be placed against any chimney; the plastering shall be directly on the masonry, or on metal lathing.

Woodwork fastened to plaster which is against the masonry of a chimney shall have a layer of asbestos board at least one-eighth inch thick placed between the woodwork and the plaster.

**Section 25. Smoke Pipes.**—No smoke pipe shall be within 9 inches of any woodwork, or any wooden lathe and plaster partition or ceiling. Where smoke pipes pass through wooden lathe and plaster partition, they shall be guarded by galvanized iron ventilated thimbles at least 12 inches larger in diameter than the pipes, or by galvanized iron thimbles built in at least 8 inches of brick work or other incombustible material.

No smoke pipe shall pass through a floor, or a roof having wooden framework or covering.

**Section 26. Hot Air Pipes and Registers.**—All heater pipes from hot air furnaces where passing through combustible partitions, or floors, must be doubled tin pipes with at least 1 inch air space between them. Horizontal hot air pipes leading from furnace shall be not less than

6 inches from any woodwork, unless the woodwork be covered with loose fitting tin, or the pipe be covered with at least  $\frac{1}{2}$  inch of corrugated asbestos, in which latter cases the distance from the woodwork may be reduced to not less than 3 inches.

No hot air pipe shall be placed in a wooden stud partition or any wooden enclosure unless it be at least 8 feet horizontal distance from the furnace. Hot air pipes contained in combustible partitions shall be placed inside another pipe arranged to maintain  $\frac{1}{2}$  inch air space between the two on all sides, or be securely covered with  $\frac{1}{2}$  inch of corrugated asbestos. Neither the outer pipe nor the covering shall be within 1 inch of wooden studding, and no wooden lath shall be used to cover the portion of the partition in which the hot air pipe is located. Hot air pipes in closets shall be double, with a space of at least 1 inch between them on all sides.

Every hot air furnace shall have at least one register without valve or louvres.

A register located over a brick furnace shall be supported by a brick shaft built up from the cover of the hot-air chamber; said shaft shall be lined with a metal pipe, and no woodwork shall be within 3 inches of the outer face of the shaft.

A register box placed in the floor over a portable furnace shall have an open space around it of not less than 4 inches on all sides, and be supported by an incombustible border.

Hot air registers placed in any woodwork or combustible floors shall be surrounded with borders of incombustible material, not less than 2 inches wide, securely set in place.

The register boxes shall be of metal, and be double; the distance between the two shall be not less than 1 inch; or they may be single if covered with asbestos not less than one-eighth inch in thickness, and if all woodwork within 2 inches be covered with tin.

Cold air ducts for hot air furnaces shall be made of incombustible material.

**Section 27. Steam and Hot Water Pipes.**—No steam or hot water pipe shall be within 1 inch of any woodwork. Every steam or hot water pipe passing through combustible floors, or ceilings, or wooden lathe and plaster partitions, shall be protected by a metal tube 1 inch larger in diameter than the pipe and be provided with a metal cap. All wooden boxes, or casings enclosing steam or hot water heating pipes, or wooden covers to recesses in walls in which steam or hot water heating pipes are placed, shall be lined with metal.

**Section 28. Dry Rooms.**—No combustible material shall be permitted in the construction of any dry

room hereafter erected, in which a temperature of  $125^{\circ}$  Fahr. or over may exist. If a temperature under  $125^{\circ}$  Fahr. is to be used, the dry room may be constructed of wood, but it shall be lined throughout with one-eighth inch asbestos, covered with sheet metal.

If windows are placed in walls or ceilings of dry rooms they shall be of wired glass set in fixed incombustible sash and frames.

**Section 29. Stoves and Ranges.**—No kitchen range or stove in any building shall be placed less than 3 feet from any woodwork or wooden lath and plaster partition, unless the woodwork or partition is properly protected by metal shields, in which case the distance shall be not less than 18 inches. Metal shields shall be loosely attached, thus preserving an air space behind them.

Hotel and restaurant ranges shall be provided with a metal hood, placed at least 9 inches below any wooden lath and plaster or wooden ceiling, and have an individual pipe outlet connected with a good brick flue. The pipe shall be protected by at least 1 inch of asbestos covering, or its equivalent.

Combustible floors under coal ranges and similar appliances without legs, such as mentioned in Section 30, in which hot fires are maintained, shall rest upon six inch foundation built of incombustible material supported within the thickness of the floor framing. Such hearths shall extend at least 24 inches in front and 12 inches on the sides and back of the range or similar heating appliance.

All coal stoves or ranges, with legs, shall be set on incombustible material which shall extend at least 12 inches in front.

**Section 30. Heating Furnaces and Appliances.**—Any woodwork, wooden lath and plaster partition or ceiling within 4 feet of the sides or back, or 6 feet from the front of any heating boiler, furnace, bakery oven, coffee roaster, fire heated candy kettle, laundry stove, or other similar appliance, shall be covered with metal to a height of at least 4 feet above the floor. This covering shall extend the full length of the boiler, furnace, or heating appliance, and to at least 5 feet in front of it. Metal shields shall be loosely attached, thus preserving an air space behind them. In no case shall such combustible construction be permitted within 2 feet of the sides or back of the heating appliance, or 5 feet in front of same.

No furnace, boiler, range or other heating appliance shall be placed against a wall furred with wood.

Heating boilers shall be encased on sides and top by an incombustible protective covering not less than  $1\frac{1}{2}$  inches thick.

**Section 31. Open Flame Heating Devices.**—All gas, gasoline, oil, or charcoal burning stoves or heating devices shall be placed on iron stands at least 6 inches above combustible

# FIRE MARSHAL BULLETIN

## SUGGESTED FIRE ORDINANCE

(Continued from page three)

supports, unless the burners are at least 5 inches above the base, with metal guard plates 4 inches below the burners.

No open flame heating or lighting device shall be used in any room where gasoline or other volatile inflammable fluids are stored or handled.

**Section 32. Gas Connections.**—Gas Connections to stoves and similar heating devices shall be made by rigid metal pipes. For small portable gas heating devices, flexible metal or rubber tubing may be used when there is no valve or other shut-off on the device.

**Section 33. Vent Flues.**—Vent flues or ducts, for the removal of foul or vitiated air, in which the temperature of the air cannot exceed that of the rooms, shall be constructed of metal or other incombustible material, and shall not be placed nearer than 1 inch to any woodwork, and no such flue shall be used for any other purpose.

**Section 34. Safety of Design.**—All parts of every building shall be designed to safely carry the loads to be imposed thereon, and shall in all other respects conform to good engineering practice.

(To be concluded)

## CHEER UP! IT'S COMING SOON

How dear to my heart are the scenes  
of my childhood,  
When fond recollections present  
them to view;  
The church Christmas tree and the  
presents upon it,  
Some of them hangovers and  
others brand new.  
How well I remember my dear Uncle  
Peter,  
Who played Santa Claus. How we  
all used to grin  
At the old bearskin coat that we  
knew in a jiffy,  
And the white cotton whiskers that  
hung on his chin.  
The time-honored whiskers,  
The long, stringy whiskers,  
The loose-fitting whiskers that  
hung on his chin.

How oft I recall that sad evening  
when uncle  
Leaned over a candle and set them  
afire;  
He singed off his hair and his mustache  
and eyebrows,  
And upset the preacher, the tree  
and the choir.  
The fire brigade came and the hose  
turned upon him,  
But he ran around making a terrible  
din;  
He burned up the parsonage, church  
and the stable,  
With flames from the whiskers  
that hung from his chin.  
The fuzzy old whiskers,  
The quick-lighting whiskers,  
The fast-burning whiskers that  
hung from his chin.

—R. K. M. in the N. Y. Evening Mail.

## TOTAL FIRE LOSSES FOR THE MONTH OF OCTOBER, 1920.

	No. of Fires	Value of Bldgs. and Contents	Dam. to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	21	\$ 392,125	\$ 19,010	\$ 114,575
Minneapolis . . . . .	62	8,189,125	81,197	7,247,760
Duluth . . . . .	15	125,262	17,472	62,562
Outside three cities . . . . .	75	555,142	182,536	323,810
Total . . . . .	173	\$ 9,261,654	\$ 300,215	\$ 7,748,647

Number of investigations, 14.

## TOTAL FIRE LOSSES FOR THE MONTH OF OCTOBER, 1919.

	No. of Fires	Value of Bldgs. and Contents	Dam. to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	30	\$ 526,750	\$ 12,775	\$ 406,400
Minneapolis . . . . .	53	1,062,850	29,315	834,500
Duluth . . . . .	9	52,900	4,430	38,450
Outside three cities . . . . .	68	479,469	186,032	307,290
Total . . . . .	160	\$ 2,121,969	\$ 232,552	\$ 1,586,640

## HISTORIC CONFLAGRATIONS.

Date	City and State	Destruction
59	Lyons . . . . .	Total
64	Rome . . . . .	Five-sevenths city
70	Jerusalem . . . . .	Burned by Titus
1137	York, England . . . . .	Total
1212	London, England . . . . .	Nearly all from north to south
1405	Bern, Switzerland . . . . .	718 buildings
1491	Dresden, Saxony . . . . .	Destroyed
1631	Magdeburg, Saxony . . . . .	Nearly destroyed
1666	London, England . . . . .	89 churches, 13,200 houses
1711	Boston, Mass. . . . .	1,000 buildings
1728	Copenhagen, Denmark . . . . .	1,650 houses, 5 churches
1729	Constantinople, Turkey . . . . .	12,000 buildings
1736	St. Petersburg, Russia . . . . .	2,000 buildings
1750	Constantinople, Turkey . . . . .	12,000 buildings
1752	Moscow, Russia . . . . .	18,000 buildings
1772	Smyrna, Asia Minor . . . . .	7,000 buildings
1812	Moscow, Russia . . . . .	30,800 buildings
1820	Savannah, Georgia . . . . .	463 buildings
1835	New York, N. Y. . . . .	530 buildings
1837	St. John, N. B. . . . .	115 houses and business section
1842	Hamburg, Germany . . . . .	4,219 buildings
1845	Pittsburgh, Pa. . . . .	1,100 buildings
1845	Quebec, P. Q. . . . .	1,500 buildings
1845	Quebec, P. Q. . . . .	1,300 buildings
1845	New York, N. Y. . . . .	300 buildings
1846	St. John's, N. F. . . . .	6,000 homeless
1848	Constantinople, Turkey . . . . .	3,000 buildings
1848	Albany, N. Y. . . . .	600 buildings, steamship pier
1848	Brooklyn, N. Y. . . . .	300 buildings
1849	St. Louis, Mo. . . . .	15 blocks, 23 steamships
1852	Montreal, P. Q. . . . .	1,200 buildings
1852	Sacramento, Calif. . . . .	Total, 20,000 homeless
1862	Troy, N. Y. . . . .	671 buildings
1866	Portland, Maine . . . . .	One-half city, 2,000 homeless
1870	Constantinople, Turkey . . . . .	7,000 buildings
1871	Forest fires, Michigan, Wis-consin and Minnesota, U. S. . . . .	750 square miles, 17,430 buildings
1871	Chicago, Illinois . . . . .	2,000 square acres
1872	Boston, Mass. . . . .	65 acres
1876	St. Hyacinthe, P. Q. . . . .	Nearly destroyed
1877	St. John, N. B. . . . .	Two-fifths city
1882	Kingston, Jamaica . . . . .	600 houses and wharves
1889	Seattle, Wash. . . . .	Business section
1892	St. John's, N. F. . . . .	Greater part of city
1892	Milwaukee, Wis. . . . .	600 buildings
1896	Guayaquil, Ecuador . . . . .	Half of city
1900	Ottawa and Hull, Ontario . . . . .	About two square miles
1901	Jacksonville, Fla. . . . .	148 blocks
1902	Paterson, N. J. . . . .	456 buildings
1904	Baltimore, Md. . . . .	140 acres, 2,500 buildings
1904	Toronto, Ontario . . . . .	14 acres leveled, 8 more damaged
1906	San Francisco . . . . .	2,593 acres (4 square miles)
1908	Chelsea, Mass. . . . .	492 acres
1914	Salem, Mass. . . . .	1,700 buildings, 253 acres
1918	Forest Fires, Minnesota . . . . .	1,500 lives lost, \$50,000,000 in property destroyed

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# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. HENRY LELTON, Fire Marshal

Room 330, State Capitol

No. 21

Saint Paul

December 15, 1920

## CHRISTMAS AND THE FIRE HAZARD.

**J**CHRISTMAS again draws near and with it the ever present fire hazard—a hazard replete with memories of suffering, of frightful deaths and loss of property.

This year thousands will celebrate the birth of the Redeemer in the old fashioned way in which the Christmas tree with its flimsy decorations and festoons of lighted toy candles and festoons of lighted toy candles

Around the lighted tree little tots will dance with glee and older heads watch their antics with satisfaction and contentment.

A possible fire with its frightful consequences will be furthest from their thoughts. Caution will be forgotten in the knowledge that everybody is having a good time. Nothing occurred to mar the occasion last Christmas and the Christmas before and it is to be presumed that the nish will be just as happy a one is Christmas.

It is the old story.

Looking over the fire causes of the previous year and their relation to the Christmas tree only one fire is listed under this head and it with a loss of less than \$500. There were one or two fatalities, but they were accountable only indirectly to the Christmas celebration. This speaks volumes for the campaign of safety education that has been and is being waged in every state of the nation, but it is no assurance that one will not fail in the very fundamentals of precaution and safety first this Christmas.

### It Might Happen.

That the undertaker instead of Santa Claus will be the chief guest the day or that he doctor will have to be called in aid of a child suffering from burns instead of for one who has eaten glutonously of goodies on hand is not an overawing picture. It has happened and may happen again.

With loved ones home from the far zone and an era of peace and prosperity throughout the land, the

Christmas period will be more than an average event this year. Celebrations aside from the usual Christmas tree for the kiddies will be many and in anticipation of the occasion, manufacturers of things to please and gratify the eye in the way of presents and decorations have produced much in the way of novelty.

The majority of such decorations and toys are in a measure flimsy and often highly inflammable. To these many will add much of home manufacture. Here is where the danger lies. There are plenty of non-inflammable decorations on the market, even including the Christmas tree, and it is folly to court death and property destruction when such can be easily blocked by purchasing toys and decorations known to be safe.

No cotton batting, crepe, or tissue paper, or other material highly inflammable, should be used. Those who impersonate Santa Claus should see that their clothing and its trimming, and beards and "false faces" are of non-inflammable material.

### The Christmas Tree.

If possible a fireproof tree should be chosen. If the tree with natural foliage is the only thing available, be careful about the lights. Beautiful electrical effects can be purchased, but if the pocketbook is not elastic enough and candles are to be used, never leave the tree lighted and go out of the room. Never let the children light the candles or play under it while the illumination is on. Use no cotton batting or other flame-breeding decorations. Be sure the candle flame does not come in contact with the pine or spruce needles or twigs. They should be so spaced as not to heat or touch the decorations of the tree.

One of the cheapest and safest trees is the fireproof one sold for the dining table. This can be beautifully and cheaply trimmed and a concealed flash lamp will burn long enough to make the tree a joy early Christmas morning and Christmas night. Presents can be arranged by the plates of the household. If too bulky, the packages can be stacked in one corner of the room and given out at the breakfast table.

### Watch Gas Flame.

Wreath and boughs of evergreen, holly or mistletoe should not be hung on walls where gas or flame can possibly reach them, nor where the heat of steam pipes and stoves, grates, etc., can play upon them for any length of time.

Candles on mantles or on dressing tables, etc., should be so arranged that they can neither fire draperies or decorations.

As soon after Christmas as possible, all natural wreaths, trees and boughs should be removed from the house and carted away. The natural foliage rapidly dries up and is highly inflammable.

Watch the kiddies carefully at Christmas season. The blaze of new lights and the excitement incident to the period may lead them to try "experiments" that will lead to misery and woe.

The custom of keeping candles in windows is a pretty one, and all right so long as the tapers are under constant supervision, but the trouble is that whole families go to church, to school and church entertainments, etc., leaving the candles lighted. Such absence of foresight has led to numerous fires as the cheap, modern paraffin candle is treacherous, and in league with vagrant drafts that steal through cracks and crannies and bend the willing flame into curtains and decorations.

### That Extra Stove.

Christmas weather as a rule calls for extra fires as the house is filled with home-comers. Here enters another hazard, that of the unwatched fire. Grates in rooms long unused are pressed into service and piled high with fuel. Chimneys long neglected have become cracked and clogged with debris. No one, unless he be ill, stays in his room on Christmas, but mingles with the gay house crowd. In the meantime the unwatched grate or stove gets in its nefarious work. Bear in mind that household routine breaks down under the intensive barrage of Christmas excitement. Clean the chimney for Santa Claus! Watch your lights and fires. Keep a constant eye on the

(Continued on Page Two)

# FIRE MARSHAL BULLETIN

**State of Minnesota**

## FIRE MARSHAL BULLETIN

**George H. Nettleton, Fire Marshal**

Office 609-610 Hamm Bldg.  
Saint Paul, Minn.

Published monthly in the interest of Fire  
Prevention and Fire Protection

SAINT PAUL, DECEMBER 15, 1920

The Bulletin will be mailed to any address  
regularly upon request

### FIRE DRILLS IN SCHOOLS.

MANY states in the Union have compulsory fire drill laws, covering schools.

Every school in this state should at least hold one fire drill per month, oftener if necessary. There is no word in the English language which carries greater terror and panic to the human heart than the cry of "Fire!"

It is a word which we may expect to hear at any moment, for fire plays no favorites, it creeps in wherever the careless leave an opening, and for this reason we should at all times be prepared to cope with its appearance.

The very first thing to do is to remain cool; this especially applies to the teacher, for to her the children look for protection and leadership.

The next thing is to get the children out of the threatened building in as orderly and rapid a manner as possible.

Never mind hats, coats or books. The moment the fire signal is given all children should be taught to immediately discontinue whatever they may be doing, line up in the alleys, and at a given signal from the teacher, march out, one alley "line" following the other.

It is essential that fire drills should be frequent and at irregular and secret times.

See that all exits are unobstructed and that all doors swing outward.

Keep fire escapes clear, and in damp slippery weather, sprinkle with ashes.

Use fire escapes often, both for regular drills and dismissals. Let the children become accustomed to them.

Use a special bell for fire signals. Be sure that the signal is DISTINCTIVE.

Teachers should follow the children after first assuring themselves that no child has been left behind.

The movement of the children should be by the shortest route, and there must be no crossing of lines.

Fire drills should conclude with the continued march of the children out and away from the building not less than fifty feet, in DIFFERENT directions. This prevents interfering directions. This prevents one line interfering with the other.

### (Christmas and the Fire Hazard)

(Continued from Page 1.)

kiddies, but let them enjoy every moment of the day—they won't if the house takes fire.

If electrical effects are used, have them installed by an expert. See that the wiring is safe and not used for a clothes line or a support for decorations.

### Dangerous Toys.

Beware of pyroxylin toys, toilet articles, candlesticks and the like. All nitro cellulose compounds have a penchant for trouble. Even combing the hair with a celluloid comb will often produce a static spark that means death or disfigurement. Especially is there danger in dolls' heads and children's toys.

The same safety rules that apply to the home, apply to large trees in lodges, churches, schools, etc.

Have all the illumination you wish on Christmas, if it is SAFE and watched constantly.

Merchants do not wish a fire at any time, let alone just before the big, last holiday rush.

Electrical effects are sought to heighten the value of window displays. Have all wiring done by an expert and keep goods away from the wires.

### COURT RULES AGAINST FIRE TRAP.

The state fire marshal's 20-year battle against Duluth's alleged "fire-traps" on Lake avenue South, between the viaduct and the canal ended in complete victory for the state against four defendants in district court before Judge L. S. Nelson of Worthington, Nov. 18, last. As a result, eight wooden frame buildings belonging to T. W. Hoopes, Allan S. Goodrich, William Craig and Anna Fitzpatrick will be torn down within a year.

The victory came unexpectedly as Attorney Albin E. Bjorklund for the state anticipated a week's litigation.

### Star Witness.

City Building Inspector Adolph Anderson appeared as the star witness for the state in the five Craig cases, including the Old Southern hotel and three other buildings on Lake avenue South, and one building at 1413 West Superior street. Confronted with the testimony of the building inspector, the defendant gave up the fight and it was stipulated that the buildings should be torn down as soon as possible, the last one to be demolished within a year.

### Notice

The Fire Marshal Department is now located in the Hamm Bldg., Seventh and St. Peter Sts.

### GARAGE FIRE CAUSES.

The careless use of matches, and smoking in garages or anywhere near gasoline tanks is criminally careless—are the common causes responsible for the greater number of garage fires, according to figures submitted by the National Fire Protection Association. Out of 176 fires directly due to "common causes," 61 fires, or 13.3 per cent, were caused by smokers or by persons lighting matches in garages. Workmen, owners of the garages and visitors, all alike, are to blame. Proprietors of garages can be seen smoking cigars or cigarettes within a few feet of the usual "No Smoking" sign. Workmen, puffing at cigarettes, work around pools of gasoline or near cars the tanks of which are open. Visitors enter garages with cigars or cigarettes merrily burning and because they are customers the owners of the garages and their men fear to invite them to go outside and finish their smokes. Gasoline is dangerous. Its vapors sink into pits and crevices in floors and hide there, like the demons they are, ready to bring loss of property and life at any moment. A lighted cigarette or cigar butt, lighted cigarette or cigar butt fire, with all its potentialities for destruction, ensues. Garage owners with any sense of duty to themselves and to their customers will see to it that there is no smoking around their places. Underwriters would do well to impress upon such persons that owners of cars entrusted to their care will always appreciate the enforcement of the "No Smoking" order.

### FOR THE SAKE OF SAFETY.

In handling candles, always be sure that the candle-stick will not overturn.

Be sure that the candle fits snugly.

Never stick candles into bottles or upon boards.

Use mica guards for cloth or paper shades.

Keep candles out of drafts and away from anything that will catch fire.

In handling lamps use metal ones, not glass.

Use metal ones, not glass.

Use only the best quality of oil.

Have lamps with heavy, solid bases.

Be sure that the wick fits snugly.

Keep the burner clean; boil it occasionally in a strong solution of soda, lye or soap.

Keep the wick trimmed evenly.

Fill the lamp by daylight only.

Be sure that cap and burner are tightly screwed into place.

Never attempt to fill a lamp or stove while lighted.

Bad electrical wiring cost the United States \$17,000,000 last year.

About as safe as a body with a razor is an unwatched incubator lamp.

**EXPLOSIVE DON'TS.**

Don't smoke while handling explosives.

Don't handle explosives near an open light.

Don't have matches about you while handling explosives.

Don't shoot into explosives with any firearms either in or out of a magazine.

Don't handle or store explosives in or near a residence.

Don't leave explosives in a wet or damp place. They should be kept where it is clean, dry and well ventilated.

Don't store or transport blasting caps or electric blasting caps with any other kind of explosives.

Don't store explosives so that the cartridges stand on end.

Don't open cases of explosives in a magazine.

Don't open cases of explosives with a nail pulier, pick, or chisel.

Don't use frozen or chilled explosives.

Don't cut or break a dynamite cartridge of explosive when frozen.

Don't rub a dynamite cartridge of explosive in the hand to complete thawing.

Don't place a hot water thawer over a fire and don't put explosives into hot water or allow them to come in contact with steam.

Don't attempt to take blasting caps from a box by inserting a wire, nail or other sharp instrument.

Don't try to withdraw the wire from an electric blasting can.

Don't force a primer into a bore hole.

Don't handle dynamite during the approach or progress of a thunder storm. If already primed, keep everyone away until the storm is over.

Don't worry along with old broken leading wire or connecting wire. Secure a new supply.

Don't spare force or energy in operating blasting machines.

Don't attempt to investigate a mis-fire too soon. It is best to allow it to remain uninvestigated at least a half a day.

Don't keep blasting caps or electric blasting caps in the same box or container with other other explosives in the field. Keep them separate.

Don't carry blasting caps, electric blasting caps or other explosives near blasting operation while holes are being fired. Keep them at a safe distance and see that everyone is at a safe distance from both.

Don't carry blasting caps or electric blasting caps in your pocket.

Don't tap or otherwise investigate blasting caps or electric blasting caps.

Don't allow blasting caps, electric blasting caps or other explosives to be exposed to the direct rays of the sun. Keep them in a shady place sufficiently removed from the scene

Anything that emits fire or sparks is dangerous.

WORLD'S PER CAPITA FIRE LOSS.	
Canada .....	\$2.73
United States .....	2.26
Spain .....	1.86
Belgium .....	1.02
Russia .....	0.97
France .....	0.74
England .....	0.64
Norway .....	0.55
Italy .....	0.53
Japan .....	0.51
Sweden .....	0.42
Austria .....	0.32
Germany .....	0.28
Netherlands .....	0.11

—From Bridgeport Progress,  
organ of the Chamber of Commerce.

**HAZARDS OF GASOLINE.**

"Put two gallons of gasoline and two ounces of solvite soap in a wash boiler or large dishpan and do your dry cleaning at home" is the deadly advice of the manufacturers of solvite, a gasoline soap.

"Put three quarts of gasoline in a deep pail with a heaping teaspoonful of borax. Put mop in and soak over night. In morning wash mop in gasoline until clean, then rinse in one quart of clean gasoline, let dry" is the equally dangerous advice of another on cleaning mops.

"Dissolve a bar of good white soap in a quart of hot water, add one pint of gasoline and one tablespoonful of ammonia. Mix thoroughly. Scrub small area of rug with stiff brush dipped in this paste. Scrape up lather with a broad putty knife and wipe with damp cloth" is the vicious advice of a third on rug cleaning at home.

Those three, and such as these, are short and sure methods to join the heavenly choir. Order the doctor, nurse, coroner, undertaker and fire department in advance.

Cleaning gloves or fabrics in gasoline indoors, or spraying bedroom furniture with gasoline to exterminate vermin are equally dangerous practices. During all three operations the gasoline constantly evaporates and the fumes mix with the air. Being nearly three times heavier than air, they flow along the floor like a stream of water, lodging in the low places, perhaps fifty feet away from their source. The explosive force of this mixture is fourteen times greater than dynamite. The tiny drop of gasoline evaporated and exploded by an electric spark propels the heaviest truck. A spark from a horseshoe or an iron tool, a match, an open light, grate, stove or furnace, will explode this death-dealing mixture.

You cannot see this creeping foe on the floor, nor foresee the spark which may set it off to destroy life and property. Your only safeguard is not to use gasoline indoors at all, and to store what gasoline you have in an evaporation-proof container.

The safety of the home and family is largely in the mother's keeping. She cannot afford to endanger them or herself by engaging in highly dangerous practices, to which we have alluded above.—Industrial Commission of Wisconsin.

**INTERESTING EXPERIMENT.**

Dry peat beds are a serious fire hazard. Peat when exposed to the air, lights very readily. An interesting experiment was tried with cigarettes. Twenty burning cigarette stubs were dropped along a peat grade and nineteen incipient fires resulted. A cigarette is practically sure to start a fire in a dry peat bed.

**PROHIBITING SPARKLERS.**

A number of states have put the ban on the sale of sparklers, a so-called harmless fireworks. While styled harmless, numerous accidents have been traced to their use, and in several instances fatalities. Two deaths were reported in Chicago last month as a result of their use.

# FIRE MARSHAL BULLETIN

## SUGGESTED FIRE ORDINANCE FOR SMALL MUNICIPALITIES

*Compiled by the National Board of Fire Underwriters and endorsed and adopted by the Minnesota State Fire Marshal's Department as a standard for small towns and villages.*

*Because of its length, the code will be published in a series of installments.*

**T**HIS suggested ordinance providing for fire limits and the construction and equipment of buildings is an abbreviation of modern requirements representing best practice in building construction. It has been compiled with special reference to the necessities of small towns. It is designed to arrest present hazardous practices and to serve as a reasonable regulation of ordinary building construction in communities where congestion of values is not abnormal. The first installment appeared in Bulletin No. 7.

### ORDINANCE PROVIDING FOR FIRE LIMITS, AND THE CONSTRUCTION AND EQUIPMENT OF BUILDINGS IN SMALL TOWNS AND VILLAGES.

**Section 35. Duties of Enforcing Officer.**—The Chief of the Fire Department or other designated official is hereby authorized and empowered:

First: To enforce all ordinances relating to the construction, equipment, management and condition of all property within said town or village;

Second: To supervise the construction or reconstruction of all buildings;

Third: To report monthly to the Mayor or Town Council regarding the condition of the town or village on all matters pertaining to fire prevention.

**Section 36. Penalty for Violations.**—Any and all persons who shall violate any of the provisions of this ordinance or fail to comply therewith, or who shall violate or fail to comply with any order or regulation made thereunder; or who shall build in violation of any detailed statement of specifications or plans submitted and approved thereunder; or any certificate or permit issued thereunder; shall severally for each and every such violation and noncompliance respectively, forfeit and pay a penalty in the sum of twenty-five dollars. The imposition of one penalty for any violation of this ordinance shall not excuse the violation, or permit it to continue; and all such persons shall be required to correct or remedy such violations or defects within a reasonable time; and when not otherwise specified each ten days that prohibited conditions are maintained shall constitute a separate offense.

The application of the above penalty shall not be held to prevent the enforced removal of prohibited conditions, as provided in Section 2 of this ordinance.

**Section 37. Conflicting Ordinances.**—And parts of ordinances inconsistent herewith are hereby repealed.

**Section 38. Date of Effect.**—This ordinance shall take effect and be in

force from and after its passage and legal publication.

**Note.**—To insure a standard quality of construction, it is urged that all fire doors, windows, shutters and similar devices required by the provisions of this ordinance shall be of a manufacture which has been tested and approved by the Underwriters' Laboratories.

## "SPARKS ON ROOF."

Each day reports reach the Department of State Fire Marshal giving origin of fires as "Sparks on roof." With a clean chimney or flue, due exercise of caution, there is no excuse for such fires. The real cause is a dirty, neglected chimney. If property owners would occasionally see that their chimneys and flues were properly cleaned and inspected, they would save themselves money, lives and property.

## BUILDINGS CONDEMNED DURING THE MONTHS OF SEPTEMBER, OCTOBER AND NOVEMBER.

### St. Paul

OWNER	LOCATION	KIND OF BLDG.
Conrad & Eva Wurm.....	407 Weiderhoffer St.....	Barn
Louis N. Sickels.....	705 Conway Street .....	Store
Nellie W. Montagur.....	377 E. 7th St.....	Store
Chas. S. Berg Est.....	Rose & Walsh Sts.....	Ice House
Charles P. Noyes.....	173 East 6th St.....	Garage
Anna Fallon .....	856 Rice St.....	Store

### Minneapolis

G. C. Bony.....	1529 5th St. North.....	Barn
Catherine Hauser .....	200 E. Hennepin .....	Barn
W. W. Clark.....	218 3d Ave. N. E.....	Dwelling
Holding Company .....	407 7th St. South.....	Barn
H. E. Doer.....	1315-19 Nicollet Ave.....	Stores
Anna Wittels .....	1308 Newton Ave. North.....	Dwelling
Anthony Oberg .....	3322 Nicollet Ave. .....	Dwelling
J. W. Perry .....	3322 Nicollet Ave. .....	Dwelling
Edith M. Kamjoman.....	2217 18th Ave. South.....	Barn
Andrew A. Duresin.....	218 3d Ave. N. E.....	Dwelling

### Duluth

G. G. Dickeman.....	1538-44 W. Michigan Ave...	Foundry
L. S. & S. Loeb & Co.....		Barn

### At Large

D. C. Robinson.....	Frazee .....	Dwelling & Barn
Anthony Schwoboda .....	Frazee .....	Blacksmith Shop
Ellen Trach .....	Frazee .....	Dwelling
Jacob Van Rhee .....	Milaca .....	Livery Barn
Nathan Lumelsky .....	Winona .....	Dwelling
P. M. Cargas .....	Fergus Falls .....	Garage
Mr. C. J. Hansen.....	Fergus Falls .....	Store
Mrs. J. W. Mathews.....	Fergus Falls .....	Livery Barn
E. A. Bartel.....	Dodge Center .....	Barn
Kotsmith Bros. .....	Foley .....	Barn
James Malloy .....	Le Sueur Center .....	Livery Barn
A. C. Wall.....	Hayfield .....	Store

## FIRE LOSSES FOR MONTH OF NOVEMBER, 1920.

	Fires	Contents Value of Bldgs. and	Contents Loss on Bldgs. and	Contents Ins. on Bldgs. and
	No. of			
St. Paul .....	31	\$1,064,550	\$65,785	\$338,000
Minneapolis .....	78	2,217,600	175,420	1,745,450
Duluth .....	7	86,300	1,475	53,100
Outside Three Cities.....	111	600,610	339,897	279,557
Total .....	227	\$3,969,060	\$582,577	\$2,416,107

## FIRE LOSSES FOR MONTH OF NOVEMBER, 1919.

	Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
	No. of			
St. Paul .....	29	\$1,331,250	\$8,750	\$1,366,075
Minneapolis .....	67	6,530,850	192,970	5,210,135
Duluth .....	11	229,050	6,110	155,250
Outside Three Cities.....	74	758,037	126,379	469,033
Total .....	181	\$9,349,187	\$334,209	\$7,200,493

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STATE OF MINNESOTA

# FIRE MARSHAL - BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 22

Saint Paul

January 15, 1921

## State of Minnesota

OFFICE OF FIRE MARSHAL  
STATE CAPITOL  
ST. PAUL

January 15, 1921.

Mr. Business Man,  
Anywhere, Minnesota.  
My dear Sir:

Are you doing everything possible to protect your plant or place of business from fire? Are you keeping it free from unnecessary inflammable materials? Do you insist on good order and neatness? Have you instructed your employes to be on the alert for fire and to exercise every care in preventing it? Do you realize that fire is a loss no matter how you figure it or how well you are insured? The business suffers during the time it is closed down on account of a fire. Regular customers are forced to trade with a competitor and some of those customers may never return. The time lost in placing the business back on its feet could have been used in promoting the business already established.

Unfortunately in the past, fires have been looked upon many times as inevitable or a joke, which only tends to engender criminal carelessness. Therefore, it is the aim of this department to create public sentiment which will cause the public to look with disfavor upon the producer of a fire whether by intent or carelessness.

There is undoubtedly considerable insurance in force at this time written on the basis of high values that have obtained until recently. It is the duty of the State Fire Marshal to investigate all fires of a questionable nature and the department welcomes any information relating to a fire that savors of incendiarism. Over-insurance at the time of a fire naturally arouses suspicion. Any record of previous fires, poor financial or business conditions furnish grounds for an investigation which usually leads up to other incriminating evidence.

This department takes the stand that most fires are unnecessary and is rigidly investigating every fire where the slightest signs of arson appear.

In the best interests of your business and the community in which you live, eliminate every possibility of fire, keep your place of business free from fire hazards. Good order is one of the first steps in fire prevention. Keep an accurate record of stock or contents in a secure place and last of all provide something in the way of first aid protection. One approved chemical extinguisher should be installed for each two thousand square feet of floor space or less.

These precautions will help prevent needless fire waste and add to your reputation as a substantial business man.

Very truly yours,  
GEORGE H. NETTLETON,  
State Fire Marshal.

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 609-610 Hamm Bldg.  
Saint Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

SAINT PAUL, JANUARY 15, 1921

The Bulletin will be mailed to any address regularly upon request

**DEADLY CHRISTMAS DECORATIONS.**

It seems almost incredible in these days of universal fire prevention preaching that in a large Indiana city the principal of a public school, co-operating with her corps of teachers, should arrange a Christmas entertainment with a miniature stage setting of cedar tree branches and a representation of a cottage, the roof of which was covered with cotton as well as the stage floor, intended, of course, to represent snow. Yet this is just what occurred, and furthermore the children were allowed to have in their possession lighted candles in the midst of these terribly inflammable surroundings. It need hardly be added that the result was a flare-up of the cotton and cedar branches, and only the Good Providence who watches over the young and helpless saved the children of this school from a terrible death by burning. The event was a Christmas celebration in this school, and some 125 children were being held in a room on the second floor of the building until preparations were completed to allow their entrance to witness the entertainment which was to be held on the third floor. While the teachers were busy preparing the final touches on the decorations, one of the children, in trying to make a candle stand up, tipped it over to allow the melted tallow to fall on the floor in order to make a base for the candle and in doing this, as might naturally be supposed, some of the surrounding cotton took fire. It took only a moment for the cedar limbs to ignite and a matter of seconds before the whole stage was ablaze. The fire department of the city arrived in answer to an alarm and extinguished the fire with little damage and no loss of life. The astonishing part of this happening was the fact that teachers in public schools, in spite of all warnings that have been given by fire marshals, fire chiefs and the daily press, could have failed to have heard or seen such warnings, for it would seem impossible that having knowledge of the perils of using such inflammable materials, a principal of a school would allow their employment as Christmas decorations. An incident of this kind emphasizes

the great necessity of intensive fire prevention work by fire marshals, chiefs and fire prevention inspectors in all schools, especially during the Christmas-tide celebrations. It is to be hoped that this case was an isolated one, and that the majority of the principals and teachers of our public schools are awake to the dangers that lie in inflammable Christmas decorations, especially as there are plenty of materials formed of asbestos and other non-inflammable substances which are equally good as substitutes for decorative purposes.—Fire and Water Engineering.

**HEROINE OF 10 SAVES BROTHER AND HERSELF.**

(Tribune, Dec. 29, 1920.)

The presence of mind of 10-year-old Dorothy Willis saved her life and that of her 4-year-old brother, Donald, when the Willis home at 4440 Forty-seventh avenue south, Minneapolis, was destroyed by fire. Dorothy carried her brother out of the house, where they had been left alone with the doors locked, and her screams for help after the children had escaped brought a neighbor who turned in an alarm.

When Mrs. W. E. Willis, the mother, decided that she would have to make a shopping trip to a neighboring store, after her husband had gone to work, she asked Donald if he would be good and mind Dorothy while she was gone. It was easy for Donald to promise, for Christmas was only a few days ago and he had not played with half his games. Besides, his toy horse, saddled and bridled with splendid trappings, stood ready for a long drive over the hills and plains of boy fancy.

"Whatever you do, Dorothy," said Mrs. Willis to the "little mother" in charge, "don't let Donald strike any matches."

When mother was gone the Christmas tree, still surrounded with the mystery of Santa Claus, tempted Donald. He liked it with just shining ornaments, but finally demanded that the candles be lighted. Dorothy thought it wouldn't do any harm, and she "lighted up just a few." Donald, waving one of his toys, knocked a blazing candle off the tree and a curtain caught fire.

Mrs. Willis had cautioned Dorothy to lock the doors, and before the children realized their situation the living room was a mass of flames. The girl took Donald in her arms, fought her way through the blazing room and while she held the boy aga'inst the door she was able to turn the key.

Her screams as she ran out into the snow attracted Mrs. O. F. Glenn, 4432 Forty-seventh avenue south, who took the now thoroughly frightened children to her home, and called the fire department. When the firemen arrived it was blazing throughout, and little headway could be made against the flames. Mrs. Willis reached home, her arms filled with bundles, to find the home destroyed. The loss was estimated at \$3,000.

**WOMAN'S COLLEGE FIRE DEPARTMENT.**

Agnes Scott College for women a Decatur, a suburb of Atlanta, possesses probably the first organized woman's college fire department in the United States. The department has only recently been organized and has been drilled most thoroughly in the various details of the service. It is understood that the department will be fully equipped in a short while with the necessary helmets, gloves, boots, etc., while hose and hydrants will be installed throughout the buildings and on the campus.

The department is officered by students of the college who are chosen by the student body. The chief, who serves under student government, decides on and oversees the general plans for the scholastic year. There is a captain in each of the three big dormitories with a first lieutenant and a wing lieutenant one in each wing on the floor of every building.

The captain is in complete charge of her building and in direct charge of fire drills. The first lieutenants are in charge in the absence of the captains and assist them when present. Fire drills are held weekly almost any time, "from three o'clock in the morning to the middle of a mathematics test at 11:30 A. M."

The regulations require that each member of the fire department be equipped with a dampened towel with which to smother flames. The wing lieutenant in case of a fire alarm must see that every room is vacant before leaving her post. Every girl in the building is required to answer roll call. The building must be emptied in not less than three minutes.

**GAS SOAKED FLOORS.**

The gasoline soaked floors of the average automobile garage and repair shops are a constant fire menace. In many instances the floors are of wood and only a spark is needed to convert them and the shop into a veritable furnace. Even floors of so-called fire resisting materials are not always immune in this respect.

If there is a place where absolute caution and safety should be the first word it is in the thousands of garage and automobile repair shops that now dot the country. Oil is present in all of them, while gasoline, even if it is kept in metal containers, is often handled in a manner that breeds carelessness. In time appears the careless smoker and a match or a cigarette stub does the rest.

Fortunately Minnesota has been fairly free from any costly garage fires, but such must not be taken as meaning that garage fires are not among the possibilities. Eternal vigilance only will prevent them.

**AN OLD STORY.**

Filling an automobile tank with gasoline while his brother guided the gas with a lighted match sent one brother to the hospital and painfully burned the other. The automobile is a wreck.

**BURNED TO DEATH IN HOME.**

**Alone in Building and Is Believed to Have Been Trapped by Gasoline Explosion.**

Mrs. Benjamin Dalgarno was burned to death in her home, 100 East Third street.

None of those who discovered the fire knew that Mrs. Dalgarno was in the building, but as soon as firemen arrived they started to search the house on a chance that she might be inside. The flames, and particularly the smoke, made their progress almost impossible. The suffocating smoke drove them to lower their faces until they were crawling along the floor with their faces close to the floor, gasping for the last bit of fresh air the fire had left. In this way they moved along until A. J. Giesen, a fireman, came upon the body in the doorway between the kitchen and dining room. The body was horribly burned and all signs of life seemed to be gone, but in hope that something might be done, Dr. Caine was quickly summoned.

Mrs. B. W. Hollenbeck discovered the fire from the home of her parents just across the alley. She rushed to the Dalgarno home, but at the kitchen door was met with such a furnace of heat, flame and smoke that she could not see within or force her way over the threshold. She rushed back, gave the alarm and picking up other neighbors on her return to the Dalgarno home tried to gain entrance through the front door, but could not get in.

Because of the progress of the fire when discovered and because it was known the only child of the Dalgarno family, a little girl about 4 years old, was at the Helge Petersen home, it was thought Mrs. Dalgarno must be away from home, probably uptown. Then the fear arose that she might be in the flames. At about that time the fire department arrived and the struggle to search the premises began. W. F. Cooley, Jr., was the first to enter the house. Carrying a chemical while others connected up the hose, he rushed through the burning kitchen, stumbling over something he knows now must have been Mrs. Dalgarno's body and was driven on by the flames and smoke. He and those who followed him could see nothing and could stay in the building but an instant.

No one will ever know just what happened before the fire was discovered. A half filled gasoline can in the kitchen, a tub that showed every indication of a terrifically hot fire within as well as without and the presence of a little blue silk dress belonging to the little girl, and the recalled statements of Mrs. Dalgarno that she was going to try to clean it with gasoline, all lead to the belief that she was preparing to clean it and the gasoline became ignited in the tub, causing an explosion or sudden blaze that overcame her as she

was trying to make her way into the dining room.

Some of the neighbors thought they saw her in the yard after the fire alarm was sounded and that she rushed back into the kitchen, either from a confused idea of saving her little girl or for some other reason in the excitement, but firemen and others among the first to reach the house believe she would have been unable to gain entrance at that time.

The interior of the house was greatly damaged, but some of the furniture was saved. — Morris Tribune.

**WATER AND KEROSENE.**

That water and kerosene have little in common was forcibly brought to the attention of an aged resident of Kensington, Minn., when he attempted to extinguish a lantern blaze with a hydrant stream. His home was badly damaged and a \$4,500 loss recorded. He was filling a bottle from the kerosene can when he spilled some oil on a lighted lantern near by. In his excitement he forgot to turn off the faucet and a hose stream which he used to extinguish the blaze carried the burning oil to other parts of the building.

**FIRE PROTECTION FOR FARMS.**

During the winter when pumps and water taps freeze suggests the installation of fire protection on the farm. Every household should be equipped with a fire bucket provided with a cover, filled with water and used for no other purpose. One such bucket, at least, should be provided on every floor of the house or barn. To overcome the danger of freezing add to each bucket of water a little more than two pounds of fused calcium chloride. This will prevent freezing at temperatures above zero.

Vining, Minn., did not have a fire during 1920.

**AN UNUSUAL HAZARD.**

An insurance journal recently called attention to an unusual hazard arising from the fact that there has been a drop in the price which the paper mills are paying for waste paper. The consequence is that those who have been taking the paper from office buildings in some of the large cities are endeavoring to secure a reformation of their contract with building owners for the removal of this paper in order to pass part of the reduced price along to other customers. The building owners do not seem to be inclined to reduce their charges voluntarily, and the result is that in many cases waste paper is piling up in the basements of the buildings, forming a very serious fire risk.

**FIRE BARRELS AND COLD WEATHER.**

Calcium chloride is far superior to common salt for use in fire barrels. It is difficult at points below zero to prevent salt water from freezing; furthermore, salt has a tendency to creep and crystallize over the barrel.

The following table gives the quantity of salt and calcium chloride required for given temperatures:

Lbs. per gal.	Salt	C. C.
½	24 above.....	29 above
1	18 above.....	27 above
1 ½	12 above.....	23 above
2	6 above.....	18 above
2 ½	1 above.....	4 above
3	3 below.....	4 below
3 ½	8 below.....	11 below
4		19 below
4 ½		29 below
5		41 below
5 ½		50 below

**WOODEN ASH CONTAINER.**

The use of wooden boxes as ash containers is quite a common practice. At Canby hot ashes were recently responsible for a \$3,800 fire.

**BUILDING VS. BURNING.**

The two tables which follow, taken from different pages of Bradstreet's reports, when placed in parallel columns, furnish food for serious consideration. The first column shows the sums invested with the United States annually during the last ten years for the construction of new buildings. The second column shows the fire losses during the same years.

Year.	Value of New Buildings.	Fire Losses	Per Cent. Fire Losses to Value of New Bldgs.
1919.....	\$1,326,936,700	\$269,000,775	.203
1918.....	445,549,500	317,014,385	.712
1917.....	728,506,400	267,273,140	.367
1916.....	1,057,350,500	231,442,995	.219
1915.....	877,845,400	182,836,200	.208
1914.....	838,121,200	235,591,350	.281
1913.....	936,685,800	224,728,350	.240
1912.....	1,010,958,500	225,320,900	.223
1911.....	947,770,100	234,337,250	.237
1910.....	974,040,400	234,470,650	.241

The average spent each year during the last ten years was \$914,376,500 for the construction of new buildings. The average fire loss was \$242,201,600, showing that approximately one-fourth of the sum actually spent for new buildings since 1910 has gone up in smoke.

In other words, for every four steps taken in advance in progressive reconstruction, we have slipped back one—either through criminal negligence or wilful folly.

## FIRE MARSHAL BULLETIN

**EVIDENCE READS LIKE FICTION.** Evidence in the trials of forty-three alleged "night riders" who were acquitted at a hearing at Cullman, Ala., of charges brought by State Fire Marshal Williams, reads like fiction. The defendants were released on account of "lack of evidence." The arrest of the men came at a time when excitement was running high in the South on account of the posting and burning of cotton gins for the alleged purpose of foreing the suspension of gin operations until cotton had reached a maximum price of 40 cents a pound. With the destruction of a number of gins near Cullman, Ala., came the burning of a large business house in the southern part of Cullman County. The state fire marshal was sent to Cullman and later forty-three of the leading planters were arrested and held under \$500 bonds. Witnesses at the Cullman trial brought out that there were a number of organizations for the purpose of preventing operations of gins but the most prominent society and the one to which all but two of the forty-three defendants belonged, was known as "Obligation Lodge." It was sworn by the "chairman" of this lodge that the organization was solely for the purpose of "raising the price of cotton" and that the lodge meetings were opened "with songs and prayers."

**Provisions of Obligation.**

The "obligation" assumed by the members was a bit different, however, from "songs and prayers" and read as follows:

"Under the present situation of the cotton market we deem it necessary to stay the gin system as long as this body deems it necessary to secure the value of the present cotton crop. We do hereby obligate ourselves to abide by the instructions of the business committee and the committee through the body. We do hereby obligate ourselves to stand to the right of our freedom to answer any call delivered by our president to carry out the resolutions herein set forth. Should I fail, I deem myself to be chastized by my fellow brethren. All this I sincerely promise, so help me, God!"

The "chairman" of the "lodge," while testifying that the members did send notices to the gins to suspend operations, denied that the warnings included any threats of burning. It was also testified that all members agreed to "wait on" or whip any member found guilty of breaking the obligations of the "lodge." The cases were dismissed without being brought before a jury.

**MULE WITH \$3,000 KICK.**

Some historians say that Mrs. O'Leary's cow of Chicago fire fame was a myth, but Wilkin county fire prevent'on officials can vouch for a mule whose rear hoof is equipped with a \$3,000 kick. Mr. Mule in his struggles for freedom kicked over a lighted lantern and a barn and its contents went up in smoke as a result. The loss was \$3,000. The mule escaped unharmed.

**BUILDINGS CONDEMNED DURING THE MONTHS OF SEPTEMBER, OCTOBER AND NOVEMBER.**

(Concluded from December Bulletin)

OWNER	LOCATION	KIND OF BLDG.
Sarah Desmond .....	St. Peter .....	Dwelling
Helen Ravey .....	Motley .....	Dwelling
Mrs. John Dailey .....	Motley .....	Dwelling
James Flynn .....	Sauk Centre .....	Barn
Franklin J. Ryther .....	Stewartville .....	Shed
John Lamp .....	Stewartville .....	Shed
Chas. Statler .....	Preston .....	Store
O. H. Lehman .....	Blue Earth .....	Restaurant
G. G. Halversin .....	Bricelyn .....	Warehouse
E. G. Leach .....	Verndale .....	Vacant
Ole A. Sandlien .....	Butterfield .....	Vacant
John Gillan .....	Chatfield .....	Blacksmith Shop
Swift & Co. ....	South St. Paul .....	Iron Stairway
Albert J. Peters .....	Cold Springs .....	Blacksmith Shop
J. H. Spink .....	White Bear .....	Shed
H. A. Warner .....	White Bear .....	Shed
Farmers Union Elevator Co. ....	Glencoe .....	Elevator
Peter Thompson .....	Worthington .....	Store
Smith & Co. ....	Worthington .....	Store
Northwestern Bldg. Ass'n .....	Frazee .....	Dwelling
Maud Waymouth .....	Frazee .....	Dwelling
O. H. Ekdahl .....	Willmar .....	Barn
Hamm Realty Company .....	Lewisville .....	Vacant
A. J. McLean .....	Madelia .....	Ice House
M. Olson Est. ....	Madelia .....	Store House
Mrs. A. J. Burge .....	McGregor .....	Saw Mill
Ole Odjard Est. ....	Mankato .....	Barn
C. M. & St. P. Ry. Co. ....	Mankato .....	Round House
Bertha Gerdvig .....	Mankato .....	Barn
Himmelman Estate .....	Mankato .....	Barn
Mrs. B. Kohler .....	Mankato .....	Shed
Dr. J. S. Miller .....	Revere .....	Store
W. W. Sweet .....	LeRoy .....	Garage
Daniel Hall .....	LeRoy .....	Storage
W. K. Porter & F. T. Young .....	LeRoy .....	Storage

**BUILDINGS CONDEMNED DURING THE MONTH OF DECEMBER.****St. Paul.**

Owner	Location	Kind of Building
Peoples Coal & Ice Co.,	West St. Paul.	Barn
	Minneapolis.	
Mary Quinlin,	1024 17th Ave. S. E.,	Barn
Edw. Lynch,	Duluth.	
	613 W. Superior St.,	Storage
V. J. Greiner,	At Large.	
Nels J. Molstead,	Chaska.	Vacant
L. E. Larsen,	Crookston,	Dwelling
L. E. Larsen,	Crookston,	Store
Gust Pautainen,	Crookston,	Store
Fred Vranesh,	Chisholm,	Storage
Geo. I. Groebner,	Chisholm,	Dwelling
Geo. L. Lyon,	Sherburn,	Vacant
Chicago N. W. Ry. Co.,	Sherburn,	Pool Room
H. J. Petersen,	Fox Lake Station,	Elevator
Hamm Realty Co..	Ellendale,	Express Office
Mrs. Frances M. Burtzlaff,	Ellendale,	Storage
D. C. Andersen,	Stillwater,	Dwelling
	Carlton,	Printing Shop

**TOTAL FIRE LOSSES FOR THE MONTH OF DECEMBER, 1920.**

No. of Fires	Value of Bldgs. and Contents	Damage to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	\$1,214,875	\$89,885	\$262,410
Minneapolis .....	2,120,350	136,385	1,719,791
Duluth .....	456,050	12,951	266,700
Outside three Cities....	1,439,310	382,640	578,138
Total .....	\$5,230,585	\$621,861	\$2,827,039

**TOTAL FIRE LOSSES FOR THE MONTH OF DECEMBER, 1919.**

No. of Fires	Value of Bldgs. and Contents	Damage to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	\$353,800	\$18,305	\$219,250
Minneapolis .....	5,049,400	47,269	3,769,481
Duluth .....	1,190,850	21,539	819,500
Outside three Cities....	880,964	342,055	466,135
Total .....	\$7,475,014	\$429,168	\$5,274,366

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# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NEETTELYON, Fire Marshal

Room 330, State Capitol

No. 23

Saint Paul

February 15, 1921

## A FIRE DEPARTMENT IN EVERY HOME.

There is no adequate reason in these modern days why the farm and small town home should not be provided with effective fire-fighting equipment. A hand extinguisher of the tetrachloride type should be placed in every kitchen for the use and protection of the housewife and the children in case of fire.

If a convenient place can be found that is out of the reach of frost, a soda and acid extinguisher can be used.

Hand extinguishers of some approved type should be placed in every barn and garage. The tetrachloride type is especially valuable about an automobile on account of its effectiveness in combating gasoline fires.

On any farm where there are a number of valuable buildings, or where considerable quantities of grain and hay are stacked within moderate distances of the barnyard, it would be well worth while to provide a 25 or 50-gallon chemical tank mounted on wheels and provided with a good length of hose. A push cart or an old cultivator would furnish inexpensive running gears if a suitable tank could be procured to mount upon them.

This "fire wagon" should be located as centrally as possible, and on a moment's notice could be run to the scene of the incipient fire.

The same suggestions that apply to the farm will fit equally well in the small town that has no water works and cannot provide a regular fire department, except that in a village of any size at all a regular chemical engine, mounted on an automobile chassis, should take the place of the small tank on wheels. The system of cisterns and hand-pumping engines used in many small towns should be supplemented by a chemical engine. Fires often occur out of reach of cisterns, where the hand-pumping apparatus becomes useless.

The proprietor of a hotel in Portland, Oregon, was recently sentenced to 180 days in jail because he failed to take the proper precautions against fire and maintained a fire trap.

## 1920 FIRE LOSS NEARLY

\$400,000,000.

A tabulation by the New York Chamber of Commerce of the fire loss in the United States and Canada reaches the enormous total of \$330,853,925.

This makes the highest record of loss and makes 1920 loom high above all other years for destructive waste; with the exception of 1905 when the San Francisco earthquake fire lifted the total to more than four hundred and fifty million. The record last year exceeds that of 1919 by over sixty million, and of 1918 by more than thirteen million, which included several heavy losses of munition and other war plants.

While increased property values may greatly mitigate this apparent increase, and inflated prices account for much of it, yet the record is alarming, even in this era of bigness in getting, bigness in spending and bigness in wasting. Especially is it cause for apprehension and deep concern to note that just as organizations, associations and departmental agencies had increased their energies and efficiency in reducing fire losses, they develop such increased proportions when business troubles become acute. It need only be mentioned to be appreciated, but a scrutiny of North Carolina's fire loss for the past two months reflects the national situation, and would seem to justify the contention of fire underwriters that the "moral hazard" is an important factor in the nation's waste of lives and property by fire.

## WATCH YOUR EXITS.

Movie picture theatre exits will bear careful watching just now. Accumulated ice and snow which may prevent the quick opening of doors to such exits should be removed without delay. Ice clogged exits are quite common at this time of the year and will bear careful watching.

The reason why about three times the normal number of fires follow a "cold snap" is because of some one's failure to inspect heating traps, flues, stovepipes and chimneys.

## REMEDIES FOR BURNS.

If the face is burned with corrosive liquids (such as concentrated lye, very strong ammonia, strong acids, etc.) soak the part in water, changing the water constantly to wash away the burning fluid. If the corrosive is known to be an alkali, pour vinegar into the water. (Lye, ammonia, etc., are alkalies.)

If it is acid, put baking soda or a little liquid ammonia in the water.

If the face is burned, bathe with warm water while preparing a mask. Take a piece of clean, soft, old linen or cotton large enough to cover the face; cut holes for eyes, nose and mouth; smear with oil or ointment and fasten with strips around the head. If no oil can be had, dust the burn with a thick layer of flour, corn starch, boric acid or baking soda.

Give sips of cold water or bits of ice to suck. Keep the patient from draughts.

If the throat is scalded, wrap the front and sides of the entire neck with flannel wrung out in hot water.

For burns or scalds elsewhere on the body, cut clothing from injured part leaving on all that sticks to the burn; be careful not to break the blisters.

Keep air from the burned part and, if possible, cover the burns with warm water (temperature of body) containing baking soda (not baking powder).

To soothe pain use Carron oil, olive oil, vaseline, cold cream, or a plaster of good, clean laundry soap. To apply this dressing, take strips of clean cloth or lint, six inches wide and long enough to go around the limb, soaked in the oil or spread with the plaster, lay on the burn, cover with a thick layer of cotton wool and bandage slightly.

## SMOKERS AS FIRE-PREVENTIONISTS.

Secretary Meredith of the Department of Agriculture has proposed to seven of the big tobacco companies something new in the way of an educational campaign. He suggests that printed matter be inserted in every package of tobacco urging smokers to take every precaution to prevent spread of fire from matches or burning tobacco in any form, including cigars and cigarettes.

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 609-610 Hamm Bldg.  
Saint Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

SAINT PAUL, FEBRUARY 15, 1921

The Bulletin will be mailed to any address regularly upon request

**INSTALLATION AND REGULATION OF HEATING PLANTS.**

The universal use of heating devices necessitates—in order to safeguard life and property,—the adoption of certain rules for their installation and operation. If an entire heating system is properly installed, no accident or hazard can be caused except by the carelessness of an operator in handling fuel or rubbish in firing the plant. A regular inspection of all heating plants by members of city fire departments is the best method for curtailing fire losses from this cause. All cities and towns should provide for and insist on such inspections, following up in each case where defects are found with second or third inspections, to see that faults are remedied.

The reports made by Fire Marshal Ellsworth, of Michigan, for the past two years have separated fire causes into ten divisions, and in each year heating plants have been the most fertile fire causes. During 1918 they caused 2,072 fires with an attendant loss of almost \$2,000,000, while in 1919 there were 1,892 fires from this source, the loss reaching nearly \$1,250,000.

All heating plants require chimneys or stacks and here is found the most frequent divergence from safety. Insufficient foundation, poor mortar and careless workmanship, too, frequently cause cracks through which sparks soon complete destruction. A hard burned tile lining is a safeguard to overcome some of these faults and no chimney should be constructed without such lining.

All too frequently we find heating plants located too close to wood partitions. Perhaps the coal bin has been enlarged, or a separation is desired to keep the fruit cellar cooler, and the builder forgets that there will be fire in the furnace some day; then disaster will result. No wood partition, or other exposed boards should be placed within two feet of a furnace, sides or top, except with metal shield with asbestos lining and air space. No register should be placed within eight feet of furnace without having metal thimble, asbestos lined and one inch air space.

All pipes, both warm air and cold

**RECORD-BREAKING YEAR FOR FIRE LOSSES.**

The year 1920 will go down in history as having broken all records except one in the matter of losses by fire. This one exception is the year memorable for the San Francisco earthquake and consequent conflagration—1906—whose total was swelled by this unfortunate happening. No such untoward event can be given in extenuation of the discouraging and terrible record of waste through carelessness that last year is disgraced with. True, it can be claimed that one reason for this enormous

increase in the extent of property destroyed is the extreme inflation of values that has prevailed during the past year. But this by no means disposes of the fact that there were 553 more fires whose losses equalled or exceeded \$10,000 last year than in 1919, and 307 more than in 1917, the latter having the largest previous total of such fires, and moreover in which year the country was at war and suffered from both the results of incendiaryism by alien enemies and from war carelessness. The following table will give a very clear idea of the increase in the number of fires in the past five years:

Estimated loss	1916	1917	1918	1919	1920
\$10,000 to \$20,000.....	1,041	1,031	906	855	993
\$20,000 to \$30,000.....	551	581	527	516	557
\$30,000 to \$50,000.....	371	427	387	411	410
\$50,000 to \$75,000.....	351	356	325	326	442
\$75,000 to \$100,000.....	124	164	171	171	215
\$100,000 to \$200,000.....	311	340	359	357	478
\$200,000 and over.....	208	251	268	268	362
Total .....	2,857	3,150	2,943	2,904	3,457

The totals in losses for the past three years are also significant, that of 1919 falling below that of 1918, when war conditions largely prevailed, but 1920 overtaking all three in extent of monetary loss. The figures are: 1918, \$316,954,385; 1919, \$269,000,775 and 1920, \$330,-853,925.

The month of December of last year also was a record breaker in respect to fire losses, its figures of \$41,197,600, being greatly in excess of any month during the past three years, the month with the next greatest loss being that of January, 1920, with a total loss of \$37,912,750, followed by January, 1918, with \$37-575,100. The losses of December, 1920, were in excess of those of the same month in 1919 of some \$13,000,000, and of 1918, of \$25,000,000, in round numbers. November, 1920, suffered a total loss of \$28,093,350, with a total of 308 fires which equalled or exceeded \$10,000 in their losses. Against this we have for December 384 of such fires, divided as follows: those whose losses were \$200,000 and over, 43; \$100,000 to \$200,00, 57; \$75,000 to \$100,000, 29; \$50,000 to \$75,000, 55; \$40,000 to \$50,000, 22; \$30,000 to \$40,-

000, 35; \$20,000 to \$30,000, 50, and \$10,000 to \$20,000, 93. Of the 43 fires with losses of \$200,000 and over, on the other hand, there were only four which topped the million dollar mark, the exact record being as follows: \$200,000 and over, 23; \$300,000, 8; \$400,000, 2; \$500,000, 6; \$1,000,000, 2, and \$2,000,000 and \$2,500,000, one each.

However, the thing that matters to the fire preventionist now, is not the unfortunate record of the year just past, but what is in store for the future. Results achieved in the year just closed, though not very encouraging in the aggregate, yet should have but one effect, and that should be the resolve to press on and make 1921 a record year not in huge losses, but in the great practical gains fire prevention will have achieved in reducing these losses to a minimum. This sounds like an ambitious program, but it is by no means an impossible one, if chiefs and others interested in this great cause will all put their shoulders to the wheel and work in unison for its accomplishment. Let us make 1921 break the record in the opposite direction to its predecessor!—Fire and Water Engineering.

air, should be of metal and air tight. No steam pipes should be placed in contact with wood; although many claim fires cannot start from this source, it has happened and may again.

A code of rules and regulations should be enacted into an ordinance by every city and village, a building inspector appointed and proper inspection made of all new installations. This, together with the fire department inspections before mentioned, will greatly reduce the fire losses from heating plants.

The removal of the wood shingle, which furnished a last resting place for the sparks from heating plants,

will also accomplish much and the two most frequent offenders against public safety be placed under control. Fire and Water Engineering.

**HEAVY INCREASE IN SUSPICIOUS LOSSES.**

Suspicious losses reported to the Arson Bureau of the National Board of Fire Underwriters are running about twice as heavy numerically as in normal times. The National Board is receiving on an average of about four suspicious loss reports daily, or about one hundred a month, discounting holidays, whereas a year ago fifty a month was a fair average.

**ARRESTS AND CONVICTIONS.**  
Cases Prosecuted By Fire Marshal's  
Department During 1920.

Frank Dewey, Bemidji, was arrested February 17, charged with setting several fires in the Great Northern Hotel, of which he was the owner. Brought to trial September 22 but acquitted.

Sam Jackovich, Mike Vukovich and Bayo R. Roganovich, Crosby, indicted November 19, charged with being responsible for the fire which occurred August 29, 1919, in a building owned by Sam Jackovich and occupied as a rooming house by Mike Vukovich and Bayo R. Roganovich. Convicted January 17, 1920, arson 3rd degree. Sentenced January 19, Roganovich to state reformatory and Jackovich and Vukovich, state prison. Intermediate sentence.

William M. Welch, Duluth, arrested February 11, for setting fire, same date, to his shoe shining establishment at 109 2nd Avenue West, and after being taken to jail confessed. Hearing February 13 and bound over to Grand Jury on charge of arson 2nd degree. Convicted March 17 and sentenced to state penitentiary for a term of three years.

Henry L. Byer, Gaylord, arrested August 5 charged with the burning of the mill at Gaylord, April 25, 1920. Preliminary hearing August 5 and bound over to Grand Jury. Grand Jury indicted Byers on charge of 3rd degree arson. Acquitted December 20th.

John Rudolovich, Ironton, arrested July 29 charged with arson in connection with the burning of a shack, March 27. Building owned by Mache Rudolovich and Mike Bobich. Also arrested charged with embezzlement and prosecuted under that charge.

Patrick J. Hartigan, Knife River Township. On August 25, 1920, confessed to setting the fire which destroyed his home, April 10, 1920. Arrested August 25 on charge of arson, third degree. Plead guilty before district judge, August 28. Sentence was to have been passed December 4. Term of court continued to February 2, 1921.

Meyer Ettenberg, Minneapolis, indicted November 12, 1918, charged with being responsible for fire at 308 Nicollet Ave., June 23, and fire at 22 Hennepin Ave., February 21. Convicted December 12, 1918, sentenced January 11, 1919, to penitentiary for an indeterminate term.Appealed May 9 to Supreme Court. Decision rendered January 30, 1920, affirming action of lower court.

Herman Liss, Minneapolis, indicted November 18, 1918, charged with bribing a witness in Ettenberg trial. Found guilty February 15, made motion for new trial. Motion denied.Appealed to Supreme Court May 9. In November argued before Supreme

Court, decision rendered January 30, 1920, affirming action of lower court. Term of commitment commuted by Board of Pardons to October 14, 1920.

L. A. Hughes and Arvid Anderson arrested for stealing on 23rd and 26th of April, 1920, respectively, confessed to being perpetrators in burning of an automobile owned by Max Wittles, located in North Commons Park, February 11, 1920, and burning of his dwelling at 1308 Newton Avenue, North, April 13, being hired by Max Wittles, May 14. Anderson pleaded guilty to 2nd degree grand larceny and sentenced to reformatory. Hughes plead guilty to 2nd degree grand larceny and sentenced to penitentiary.

Max Wittles, Minneapolis, charged with being instigator in burning of his automobile February 11, 1920, and burning of his house at 1308 Newton Avenue, North, April 13. Indicted by Grand Jury, 3rd degree arson for first fire and 2nd degree on second charge. Convicted May 13 on 2nd degree and May 14 sentenced to penitentiary for from seven to fifteen years.

Albert Aomer and Marvin A. Kael, Mankato, arrested March 15, 1920. Kael confessed to arranging plant and setting fire to recover insurance on general merchandise store owned and occupied by Aomer & Kael, March 15, 1920. Aomer and Kael indicted June 1, first degree. Convicted June 7. Aomer and Kael sentenced to state prison for not less than 10 years.

Joseph Zuleger, Rice, indicted on two counts October 5, 1920. First indictment charged him with setting fire to dwelling owned by Mrs. Amelia Zuleger, June 5, 1919, and the second indictment charged him with burning the barn, chicken coop, granary, machine shed and old house owned by the same party, April 18, 1920. Trial set for November 1, 1920.

**REMARKABLE WORK BY UNITED STATES AVIATORS.**

The location of more than 500 forest fires in time to prevent a dangerous spread has clearly demonstrated the value of the airplane as forest patrols, according to a statement issued by the Army Air Service of the United States.

Six bases from which forest air patrols operate were established between May 16 and July 1 of this year.

The aviators on the work have flown 1,995 hours over approximately 6,247,091 square miles of timber, and have detected 464 fires in time to prevent any considerable spread.

The first forest air patrol was established at Fresno, Cal. Other bases are now located at Mather Field, Red Bluff and March Field, Cal., and Medford and Eugene, Ore. Six patrols operate out of Mather Field alone.

**FARM OR INDIVIDUAL LIGHTING PLANTS.**

People are living who have seen the tallow dip displaced by the candle; the candle by the kerosene lamp; the kerosene lamp by the gasoline lighting system, which in turn was displaced by acetylene and are now witnessing the transformation whereby electricity is taking the place of all means in the making of night into day.

It is not so many years ago that only the larger cities had street lights of greater volume than that of kerosene lamps with "steen" candle power, whose rays would penetrate, under favorable conditions, half the length of a block. Today many towns with as few people as one thousand, boast of their "white way" as a result of the onward march of electricity, and now comes the farmer with a demand for "more light."

To meet this demand a number of manufacturers of electrical equipment have placed on the market individual lighting and power plants, capable of not only lighting the "whole ranch," but of providing power for pumping, grinding, churning, washing, sweeping, etc., heat for ironing and even cooking to the end that the farmer, for a small investment, may enjoy many of the conveniences and comforts heretofore only in the reach of his city brother. In addition, much of the drudgery incident to farm life has been taken from the good wife and life is made more worth living.

With the advent of this "godsend" to the farmer, and those near and dear to him, have come dangers against which we desire to counsel:

1. "Lay off" the fellow who, in order to sell his machine, says it can be installed by anybody. Electricity properly safeguarded is, without doubt, the safest means for power and light; improperly installed, one of the most dangerous to life and property.

2. Take no stock in the salesman who tells you that an expert is not necessary to wire your premises. A lighted match may be more expeditious, but it can be no more certain or efficacious than improper electric wiring—if you want to see things burn.

3. Deal only with responsible dealers and buy the plant installed, not f. o. b. factory or even delivered at your premises. This will assure you service and efficiency and, above all, safety. No responsible dealer will put incompetents on a job.

4. There is a certain code—that of the National Board of Fire Underwriters—which should be followed in wiring for electrical current. Insist that your job be done according to that code. Any other plan may be dangerous.

5. Because you are installing a low voltage plant don't be deceived into the belief that it is less dangerous. A low voltage electric system improperly installed is a menace to life and property.—Kansas Fire Marshal Bulletin.

# FIRE MARSHAL BULLETIN

## FIRE PREVENTION SUGGESTIONS.

"The time to fight a fire is before it happens."

1. Don't leave the stove while boiling is being done.

2. Don't pour water on burning fat; use earth, sand, flour, salt, or a metal cover.

3. Never let a stove get red hot.

4. Be careful not to use stove polish on a hot stove; wait until it is cold.

5. Don't use any kind of stove polish or other cleaning mixture unless you know what is in it; buy the safe kinds.

6. Don't leave sweepings in a piece of paper; put them in the stove.

7. In handling oil or wax, use only small quantities at a time; wipe thoroughly the surfaces you have rubbed with rags, and then burn the rags.

8. Don't put ashes in wooden receptacles nor where they can possibly come in contact with wood.

### Rules for Rubbish.

1. Keep things tidy; don't allow rubbish to accumulate anywhere in the house or near it.

2. If you keep oily clothes, put them into a metal box or can with a cover.

3. If you learn that any one is keeping oily rags outside of metal containers it is your duty to report it.

4. Don't pile dead leaves against anything that will burn. They sometimes ignite of themselves.

5. Bury leaves; don't burn them.

6. Don't have old pieces of lumber cluttering up your basement. Have them cut up into kindlings and then piled in a proper place.

### Rules for Kerosene.

1. Be sure that oil heaters and cookers do not leak and that they will not overturn.

2. Keep their burners clean and do not turn the flames too high.

3. Keep the oil can outside of the house, if possible.

4. Do not let the floor beneath the can become oil-soaked.

5. Make sure that the can does not leak nor drip.

6. Never leave oil uncovered.

## THE INCENDIARY FIRE HOSE.

Hose used to convey water under pressure for the purpose of extinguishing fire would hardly at first thought be deemed capable of originating fire, yet that fact was completely demonstrated in a recent "trying out" of a new pumping engine by the Boston Fire Department, during the course of which test fire broke out in a length of hose near the engine, destroying about 15 inches of the hose and damaging a larger area.

The hose used was of the "jacketed" variety, in which the hose proper is enclosed in a somewhat loose woven jacket to diminish abrasion and, incidentally, strengthen the hose.

The origin is attributed to friction between hose and jacket, which is doubtless correct. Hose of this character has often been found to have become heated to a considerable degree, but so far as records go this is the first instance of actual combustion.

Possibly the difference in rate and nature of pulsation of different designs of pumps exerts an influence, but that is a matter of conjecture, since the occurrence is hardly likely to be repeated to an extent to excite apprehension. Yet, as a demonstration of the insulating power of a thin sheet of rubber and cotton, behind which the swiftly moving cold water was unable to carry away the heat of friction rapidly enough, it gives some food for thought.

## GASOLINE.

There is no question as to the value and various uses of gasoline, but it is dangerous, very dangerous, and should be used and handled with the utmost care.

Mixed with air, gasoline forms a most dangerous explosive gas—one gallon of gasoline furnishing the explosive power of 83 pounds of dynamite.

Gasoline should not be stored or used in the house. A flame or spark will explode it. The gas is heavier than air, sinks to the floor and into cracks and holes, and abides the time to get in its work.

## FIRES FROM ELECTRIC IRONS.

The Louisiana fire marshal notes that the summer months have brought to the state fire marshal's office an increased number of fire reports bearing on fires originating from the careless use of electric irons. "As the use of these irons becomes more general throughout the state, unless proper care is exercised in their use, a corresponding increase in the number of fires from this source must result. The real danger is allowing the current on, unwatched. The iron becomes greatly overheated during the time it is not in use and unwatched, and in a little while the iron rest also becomes overheated and fire is the result. Eliminate the danger by disconnecting the cord at the socket."

## AN EXCELLENT IDEA.

Fire Commissioner Murphy of Boston has directed the establishment of libraries in 49 fire stations in that city. The books are intended to give an opportunity to study the science of fire fighting, the handling of automobile apparatus and similar subjects during spare time off duty in the engine houses.

There is a suggestion in this for the authorities of other cities. Excellent results should be the outcome of the limited enterprise undertaken in Boston.

## BUILDINGS CONDEMNED DURING THE MONTH OF JANUARY, 1921.

OWNER	LOCATION	KIND OF BLDG.
Ernest Kulenkamp	104 E. Elizabeth St.	Shack
Jacob Schmidt Brewing Co.	171 Concord St.	Store
James M. Nugent	790 Mound St.	Dwelling
	AT LARGE	
H. P. B. Peterson	Hutchinson	Barn
Joseph and Daniel O'Brien	Faribault	Blacksmith shop
C. Munson	Elmore	Store
August J. Becker	Red Wing	Store
James Malloy	Le Sueur Center	Barn and garage
P. A. Nelson	Lanesboro	Dwelling
P. C. Johnson	Mabel	Ice-house
John Kelling	Ceylon	Store
D. G. Burns	Glenwood	Store
Charles A. Renn	Glenwood	Barn

## FIRE LOSSES.

### Month of January—1921.

	No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	43	\$2,094,550	\$29,020	\$701,250
Minneapolis . . . . .	108	2,952,400	174,505	2,209,590
Duluth . . . . .	24	263,619	73,742	151,900
Outside Three Cities . . . . .	107	1,011,112	461,122	627,107
Total . . . . .	282	\$6,321,681	\$738,389	\$3,689,757

### Month of January—1920.

	No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	43	\$752,975	\$117,700	\$620,350
Minneapolis . . . . .	87	2,557,200	196,906	1,670,073
Duluth . . . . .	27	1,169,305	20,040	851,600
Outside Three Cities . . . . .	126	1,059,850	391,423	559,905
Total . . . . .	283	\$5,539,330	\$726,069	\$3,711,928

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# STATE OF MINNESOTA

# FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 24

Saint Paul

APR 18 1921  
UNIVERSITY OF ILLINOIS LIBRARIES  
March 15, 1921



Howard Caddy

EVERAL months ago several hundred Boy Scouts entered into a Fire Prevention Essay Contest or prizes offered by the National Board of Fire Underwriters. The contest was national in scope, by Scouts in many states throughout the union participating. All states submitting essays, however, were not considered worthy of distinction.

A first and second prize was to be awarded to the boys submitting the best essay from each state and then in addition to the state prize, a national prize was awarded to the Scout writing the best essay of all. Scout Louis dam Vincent, of Oakland, Cal., as the winner of the national prize which consisted of a hundred dollar camping outfit, compete in every detail, in addition a solid gold medal.

Scouts Howard Caddy and Elmer Pahkala of Nashwauk were the winners for Minnesota, Scout Caddy first and Scout Pahkala second. The prizes which were designed by Tiffany & Company New York were identical with

the exception of the engraving of the scouts' names, the first prize of sterling silver and the second of bronze, each a handsome trophy to be highly prized by the winning scouts.

The essays submitted by Scouts Caddy and Pahkala, together with their pictures, also a picture of the trophy, are published in this issue.

An added honor was attached to the participation in the contest in the fact that the essays were submitted to a Board of Judges of which Major General Wood of the United States Army was chairman.

After the judges had reached their decisions the matter of presenting the prizes came up. In Minnesota this honor was bestowed upon the State Fire Marshal's Office by Mr. W. E. Mallalieu, General Manager of the National Board of Underwriters, who requested Mr. Nettleton to represent the National Board in the presentation of the prizes.

The presentation took place in the Assembly Hall of the Nashwauk High School on the evening of February 15, 1921, and the ceremony developed into one of the most interesting fire prevention meetings ever held in the state, a fire prevention meeting different than usual for the reason that Scouts Caddy and Pahkala read



Elmer Pahkala

their essays, which were fire prevention addresses of real educational value and to which the large audience assembled gave the closest attention.

The meeting opened with a musical program consisting of several numbers by the High School Band, followed by a vocal solo after which Mr. C. W. Street, Superintendent of the School and chairman of the evening, called upon Mr. Arthur Soubra, now with the State University but formerly of Nashwauk, who was responsible for the organization of Boy Scouts in Nashwauk, for a short address.

Scouts Caddy and Pahkala were then called upon to read their essays, after which the presentation address appearing elsewhere in this issue was made by Mr. Nettleton, the trophies awarded and following more music, the program came to a close.



The Trophy

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 609-610 Hamm Bldg.  
Saint Paul, Minn.

Published monthly in the interest of Fire  
Prevention and Fire Protection

**SAINT PAUL, MARCH 15, 1921**

The Bulletin will be mailed to any address  
regularly upon request

**FIRE PREVENTION.**

**By Howard Caddy, Winner of First  
Prize for Minnesota.**

It is a brown clad, sun-tanned boy who is sitting on the engine house step and speaking to an old fire captain. "Oh, Dad, our scoutmaster painted a picture last night that has troubled my mind."

"So," said the captain, presumably unconcerned. "What is it?"

"If it were possible to bring all the buildings which were visited by fire in 1907 together and range them on two sides of a long city street it would reach from New York to Chicago. One thousand miles of devastated property. Every thousand feet a house from which an injured person has been rescued, and every three-quarters of a mile a house in which some victim was burned to death. Supposing that the fire started on January first and burned steadily forward at the rate of three miles per day, for a week, for a month, for twelve months. But at the end of that year, does it stop? No! It devastates a new street and on forever, until severe measures are taken and enforced to check the destruction."

"He is right, my son," said the captain. "But since you are studying fire prevention and fighting in your scout work, tell me the methods of fire prevention that you know."

"All right, dad," began the boy, "to prevent fires we must first know the causes of them. Most fires are caused by carelessness, usually by letting children have matches, by not putting out campfires, and by careless smokers throwing lighted cigarettes on inflammable material. The causes suggest many ways of fire prevention. Carelessness in handling matches causes many of our fires. Matches should not be left lying around on tables and chairs as mice may nibble them or the children may find and strike them. Matches should always be kept in a metal receptacle and be broken before being thrown away. Everyone should be careful in disposing of a lighted match, as it may fall upon inflammable material and start a

fire. The so-called parlor match should be prohibited by law because it ignites too easily.

A good scout never uses gasoline or kerosene in lighting a fire and may do his good turn by warning others against the use of them. He never should leave wood or other fuel near the stove or campfire as it may catch fire. Defective chimneys are sometimes the cause of fires, so they should be examined at least twice a year. As over half of the fires start in closets, cellars, or attics it is essential that the rags, dry wood, and other combustibles be cleared out. No scout would think of carrying a candle or lighted match into a closet. In cities, hot ashes should not be dumped into wooden ash barrels, as metal receptacles are a great deal safer.

Many schools require that text books be read on fire prevention for this shows the pupils the loss from fire and may instill in them a sense of responsibility.

Little children like to play around fires. Therefore a scout will not build a fire unless it is necessary and then in a good safe place. Furthermore, electric wires should be well insulated, protected, and a strict system of inspection should be perfected to prevent future fires. Likewise it is to be hoped that through a nationwide educational campaign the National Fire Protection Association, The National Board of Fire Underwriters and other organizations will stimulate the public sentiment to demand national and state legislation to improve present conditions. The construction of fire resisting, fire-proof and hazardless buildings is a step in the right direction. Installation of automatic fire sprinklers in large buildings is helpful.

Women should not wear kimonos and dresses with long, loose sleeves when working around a fire. Independence day is celebrated by the shooting off of fireworks and firecrackers which have no place in the scout program. Scouts should not use them for the day can be celebrated in many safe and sane methods. In burning buildings all doors and windows should be kept closed so as to prevent drafts, and remember that the air is free from smoke and carbon dioxide within six inches of the floor."

"Well done, my boy, your scout work has taught you many valuable lessons which—."

"Oh, dad, at our next scout meeting we are going to study forest fire prevention, and each scout must be prepared to contribute something on this subject. Father, you have been a faithful forest ranger and especially during that terrible Moose Lake fire of 1918. Tell me some of your experiences."

"Yes, my son, gladly would I tell you, only I care not to look back upon those terrible days. To a forest ranger the fire is a cruel, powerful, and ever present enemy whose methods of attack he must well understand to successfully combat it. To

understand what a forest ranger endures is impossible unless we are with him. First he can make a backfire at the foot of a slope about one-half mile ahead and also make a fire break by raking the leaves and litter for a space along the ridge. Roads and clearings may be used as fire breaks. The state should plant clover in forests and cut-over lands to prevent the growth of brush and weeds which are good food for running fires. Telephones should be placed in the homes of settlers so that help can be summoned in case of need, and the employment of more forest rangers during the dry seasons. The most important forest fire preventative is for every one to be a forest ranger and extinguish every fire which is noticed in the peat bogs, hollow logs, and on the ties of railroad tracks. People should be especially alert in the dry seasons for fires and also remember that the larger a fire gets the hotter it is and the faster it travels."

Suddenly the fire bell rang and the horses and men moved almost automatically to their places and off went the hook and ladders. The old captain swayed to and fro on the wagon as the brown-clad lad ran to the scene of the fire.

**FIRE PREVENTION.**

**By Elmer Pahkala, Winner of Second  
Prize.**

It is said that Shakespeare wrote the following: "A little fire is quickly trodden out; which, being suffered, rivers cannot quench." Fires are the result of accident, of spontaneous combustion and of design. If they have been accidental the cause can generally be discovered, and it will be found that they might have been prevented. If certain precautions were taken, fires from spontaneous combustion would never occur.

Most fires are caused by carelessness, thus due to accident. Matches of the wrong kind or matches carelessly thrown about are the causes of an incredible number of fires. No match should be permitted by law which will strike elsewhere than on the box, and in every house where matches are used for starting stoves, lighting gas jets, smoking or other purposes, there should be proper receptacles in which the burnt matches should invariably be deposited.

Cleanliness is a first requisite in guarding against fires as there is nothing more dangerous than accumulated rubbish of any sort enclosed in a cellar or garret, either of which is usually considered a handy place to stow away discarded articles. Furnaces and stoves are often improperly protected. They should be carefully guarded by asbestos or metal covering placed over any adjacent or nearby woodwork. If gas lights are used, they should not be placed near windows where lace curtains or other inflammable material can come in contact with the flame. Moreover, gas brackets should, in

most cases be fixed and not swinging, as many a serious fire has resulted from a careless push against a movable bracket which has brought the flames next to a window curtain.

If kerosene lamps are used, they should be the safety type, which will not explode in case the lamp is knocked off the table in any manner, but will immediately go out. In case there are electric lights in the house they should be properly placed in compliance with the regulations of the local authorities or Board of Underwriters, as faulty insulation and improper wiring cause a large percentage of each year's fires.

Wax tapers and candles should be entirely tabooed. On matters of how their houses are lighted, an even smaller proportion know anything about wiring in their houses, provided they be lighted with electricity. Carelessness and negligence are the causes of over half of all the fires.

The following are some of the common acts of carelessness that cause fires: Looking for clothing in closets with a lighted match or lamp; kindling fires with kerosene; putting hot ashes and hot coals in wooden barrels or boxes; thawing out frozen pipes with a torch or lamp; using gasoline for cleaning in the house; looking for gas leaks with a match or lamp; allowing oily rags about the premises and sawdust to collect on the floors; throwing waste paper into a fire place; throwing away lighted cigars, matches, and cigarettes; burning leaves and dead grass on windy days; neglecting to have your chimneys cleaned once a year; hanging clothing near open fires or stoves; filling lamps when lighted; allowing rubbish to accumulate in the hallways and on the fire escapes; and by using shingles and white pine in buildings for they burn very readily. The fires caused by the items named above may be easily avoided in every home, village and community.

Fires made intentionally are called fires of design. Laws should be passed by the state and national legislatures to stop or otherwise punish violators. There are always a certain number of persons who hold grudges against foresters or owners of property and use this means of revenge. Others are owners themselves that do this for insurance and other personal reasons.

During the dry seasons of the year more forest rangers should be employed. When a forest fire gets a start it should be stopped by fire breaks and back fires. Roads and clearings may be used for this purpose. Each individual should protect forests by taking care and not throwing lighted matches into dry grass or leaves. When camping, fires should be put out before abandoning the place. It should be the duty of every citizen of the United States to put out every fire that comes to his notice in the peat bogs, hollow logs and anywhere else.

In case of fires one should always remember to keep cool. Familiarize yourself with the location of all the stairways. Keep the doors of the rooms shut. Open the windows from the top. Place a wet towel or handkerchief over the mouth, breathe through it instead of the nose so as not to inhale smoke. If the rooms fill with smoke keep close to the floor and crawl along by the walls to the windows. Never go to the roof, unless as a last resort. Never jump through flames in a building without covering the heat with a blanket or heavy clothing. Never get excited but try to recall the exits.

It is an old maxim that fire is a good servant but a hard master.

#### PRESENTATION OF TROPHIES MADE BY STATE FIRE MARSHAL.

Mr. Chairman, ladies and gentlemen and honored guests: When Mr. Mallalieu, General Manager of the National Board of Fire Underwriters, requested me to represent the National Board in the presentation of these trophies to Scouts Caddy and Pahkala, I replied that I would not only be pleased to do so but would consider it an honor, in fact a double honor, in that it would be an honor to represent the National Board and an honor to present the prizes to the winners who had taken part in a contest in which Major General Leonard Wood had acted as Chairman of the Board of Judges, a contest that has attracted attention throughout the nation. I am glad to have the privilege of being with you on this occasion.

Scouting is a wonderful thing and the American boy of today is indeed fortunate in being able to belong to a fraternity that makes real men out of real boys through a real program which works. Scouting is a happy, wholesome, worthwhile, outdoor school. Scouting is a huge, splendidly organized game, with all the fine zest of competition, the finer zest of co-operation, the keen testing of mind and muscle, the essential good sportsmanship of a football game. Only it is a constructive game, and a progressive game. It gets somewhere.

Scouting is more than a game. It teaches signaling and first aid, fire fighting and outdoor cookery and a host of other useful and important things. It teaches also self-reliance and helpfulness, courage and courtesy, loyalty and reverence, patriotism and honor and other kindred qualities of good repute.

His motto is "Be Prepared." In taking the oath he swears upon his honor to do his best, in his duty to God and his Country and to obey the scout laws, to help other people at all times and to keep himself physically strong, mentally awake and morally straight. A scout is trustworthy, he is loyal, he is helpful, he is friendly, courteous, kind, obedient, cheerful,

thrifty, brave, clean and last of all a scout is reverent. He is reverent toward God. It would be impossible for him to observe all of the other scout laws and not be reverent to God. In fact, it would be almost impossible to violate any of the laws and keep the others.

Who can conceive a more effective plan in the building up of good citizenship than the Boy Scout movement? The whole plan of organization is intended to develop to the highest standard the manhood of the nation, and my prophecy is that the men of tomorrow, those who will administer the affairs of the state and the nation, will be of a higher type and our land will be a better one to live in on account of the influence of the boy scout organization.

Have you boys ever stopped to think how fortunate you are in being able to be a member in a fraternity that has for its standard of living and doing only the highest ideals of living? It affords an opportunity of forming acquaintanceships, friendships and comradeships that will last a lifetime and in later years you will look back upon the good fellowship you enjoyed with the other members of your troop. You will recall the good times you had together on the hiking trips and in your camps and the things you learned to do in the art of scouting, things you will never forget and things that will help you all through life—to enjoy life and get the most out of it, one of the greatest of which is service to others. You know a man gets out of a thing just what he puts into it. In a business or in a club he benefits in proportion to the capital he invests or the energy or interest that he puts into it.

And so all through life you will continue to enjoy the privileges and advantages of having once been a scout for "To be Prepared" means to be ready to serve at all times and through service we grow and enjoy the best things in life.

The Boy Scouts of America is an organization that deals with the future while working in the present. The importance of a boy to society consists in the fact that he is on his way to manhood, and all of our complicated system of education is supposed to be in preparation for the duties of maturity. But our school system leaves certain well-recognized gaps in character formation and one of these is being occupied by the boy scouts' organization in a remarkably successful way.

The fundamental principle of its training is that of activity. A boy must be doing something; unless there is something constructive for him to do he is apt to find something destructive. Therefore, the theme of the boy scout work is "Do" as contrasted with "Don't"; the thing to be done is not the primary object, but the doer is. Important as the task may be, its chief importance lies in its developing effect upon the boy that is, and the man that is to be.

## FIRE MARSHAL BULLETIN

One who studies the admirable system of work laid down in the boy scout manuals cannot fail to be impressed with this fact.

Thus it has come about naturally, and almost inevitably, that fire prevention is one of the subjects of activity. Fire prevention is essentially an expression of good citizenship; it protects life; it promotes conservation; it is mindful of the welfare of the neighborhood and the community; it calls for observation and understanding and, most important of all, it strikes directly at that destructive national weakness, American carelessness.

In doing this it gives an opportunity for wholesome activity. Boys have keen eyes; they are taught to use them in detecting hazards. Boys have logical minds; they are helped to think constructively in correcting these hazards. Boys have active hands; they are encouraged to use them in clearing up waste material, removing inflammable rubbish and in similar employment, while all the time the effect is primarily upon the owners of these eyes, minds and hands, and upon the sane, careful, constructive men that they are being trained to become.

Therefore, this essay contest upon the subject of fire prevention is not without its importance to the country wherein these boy scouts are growing toward the responsibilities of manhood, and the delightful zeal shown by many of the young writers, even in the very extravagance of their language, holds a large promise for their future usefulness.

The citizens of Nashwauk have reason to be proud of the two boys who have won the prizes for the State in this contest. Do you know that there are 412 boy scout troops in Minnesota with an enrollment of 10,328 boys? Think of the honor of entering into a contest of this kind and having the essays submitted to a Committee of Judges headed by a man like Major General Leonard Wood, who acted as chairman of the Board of Judges! Have you stopped to think of the im-

portance that was attached to this contest? General Wood in commenting on it said, "I cannot tell you with how much interest and appreciation I read the essays from the Boy Scouts' Contest with reference to fire prevention.

"The idea of this contest was a fine one. It served to bring to the attention of the boy scouts throughout the country a most important field of effort, namely, that of vigilance in measures looking to fire prevention and the dissemination of information concerning the sources of danger and what can be done to prevent.

"The fundamental cause of fires is carelessness, combined with a certain amount of ignorance. If the boy scouts take up the campaign in behalf of fire prevention and speak as intelligently as they have written, I feel that we shall soon reduce the danger from fire."

The prize winners have proven in the writing of their essays that they have made a thorough study of the subject of fire prevention. They have covered practically all of the

common hazards that are responsible for our needless fire waste, citing facts that have been revealed by fire prevention engineers after years of exhaustive study and research of the causes and effects of our common enemy, "FIRE."

I am sure that we will hear from these boys in later years either from the field of fire prevention or in a literary way for not only have they shown a keen interest in fire prevention but they have in a most interesting way told the story of fire prevention.

And so it is most fitting that you should come together this evening and so honor the winners as far as Minnesota is concerned in this contest. Scouts Caddy and Pahkala are very happy I am sure and the people of Nashwauk should be and I know that you are very proud of the fact that the winners in this contest are two of your home town boys and, again I say, I am glad to have the privilege of being with you and presenting in the name of the National Board these trophies to Scouts Caddy and Pahkala.

### FIRE LOSSES.

#### For Month of February, 1921

	No. of Fires	Value of Bldgs. and Contents	Damage to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	47	\$851,650	\$35,035	\$251,950
Minneapolis .....	79	1,882,825	371,270	1,433,825
Duluth .....	14	455,977	42,172	370,800
Outside Three Cities....	112	784,904	398,577	395,070
Total .....	252	\$3,975,356	\$847,054	\$2,451,645

#### February, 1920

	No. of Fires	Value of Bldgs. and Contents	Damage to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	38	\$610,575	\$48,355	\$356,650
Minneapolis .....	90	3,819,550	129,960	1,522,265
Duluth .....	14	599,900	9,085	532,250
Outside Three Cities....	105	1,125,830	169,298	542,975
Total .....	247	\$6,155,855	\$356,698	\$2,954,140

# Spring Clean-up Campaign

## May 1st to May 7th

CITY OFFICIALS GET BACK OF THIS MOVEMENT. MAKE IT A SUCCESS AS FAR AS YOUR TOWN IS CONCERNED.

FIRE PREVENTION COMMITTEES—JUSTIFY YOUR EXISTENCE BY ORGANIZING A SYSTEMATIC CLEANUP IN YOUR TOWN. START PLANNING NOW. EVERY MAN AND EVERY WOMAN, EVERY BOY AND EVERY GIRL CAN HELP. WATCH FOR SUGGESTIONS AND PROGRAM IN NEXT BULLETIN.

REMEMBER THE TIME, MAY 1 TO MAY 7—ONE WEEK TO BE DEVOTED TO HOUSE CLEANING AND SHOP CLEANING WITH A CLEAN TOWN WHEN THE WEEK IS OVER.

AUG 24 1921

# STATE OF MINNESOTA~~~ FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 25

Saint Paul

April 15, 1921

## Spring Clean-up Campaign

**May 1st to May 7th**

**FOR THE MERCHANT:**—Make thorough inspection of your place of business. Remove all packing cases, barrels, rubbish and other inflammable material that may have accumulated in your basement or storeroom during the winter. This is for your safety as well as your neighbors'.

**FOR GENERAL MANAGERS** of industrial plants, shops and factories: For the safety of your employees and your plant, follow the same suggestions offered above.

**FOR THE HOUSEKEEPER:**—Clean house from garret to basement. Keep the home free from rubbish and other inflammable material that may catch fire or aid it in spreading.

**TO CITY AND VILLAGE OFFICIALS:**—Urge every citizen in your town to take part in this clean-up campaign.

**PLACE**—Throughout Minnesota.

**THE TIME**—May 1st to May 7th.

**F**OR several years May 1 has been observed in many states in the Union as Clean-up Day. Minnesota has been one of the foremost to take part in this movement which is no longer limited to one day but extends over a period of several days or a week thus securing greater results.

The campaign this year runs from May 1 to May 7 and of course, since May 1 comes on Sunday, no clean-up work is urged for that day but, as it is desired to have every man, woman and child take an interest in the movement and also to enlist every profession, this first day of the campaign Sunday, May 1, will be the day on which the Clergy can aid by devoting a few minutes' time during the church services in calling the attention of their congregations to the campaign and urging everyone to do his part.

The object of the campaign is to reduce to the minimum the fire hazard caused by the accumulation of rubbish and inflammable material that steadily collects in the home or place of business during the winter months. Rubbish heaps are responsible for many of our fires, especially in the home.

In order to make the clean-up effective, every city, town or hamlet in

the state should select at least one day during the clean-up period and make it the official clean-up day for that locality.

Town officials should take the initiative in arranging a suitable program for the day, urging every man, woman and child in the town to take an active interest in the work of freeing their town from the unnecessary fire hazards caused by accumulated rubbish and other unsafe conditions and the entire day given over to the interests of fire prevention and fire protection in an effort to make that town a better and safer one to live in. The best results would be obtained through a proclamation issued by the Mayor urging citizens to remove rubbish and worthless trash from their homes or places of business and then arranging to have it collected and disposed of at the expense of the town and under the direction of the local Fire Chief.

Fire prevention programs should be carried out in the public schools, devoting some time to the discussion of the subject of fire prevention and a most appropriate way to end the activities of the day would be to arrange for a public fire prevention meeting to be held in the town hall or one of the local theatres. This might prove to be of greater value

if held on the eve of the day to be observed in cleaning up as it might tend to impress those attending of the great importance of taking part in the campaign.

If it is felt that a more extensive campaign should be carried out, the following program is suggested. This may be modified or added to as local conditions demand.

If a proclamation is issued by the Mayor, it is suggested that it be issued several days before May 1. The local Fire Prevention Committee, if there is one, should take the initiative in organizing the clean-up. If no standing Fire Prevention Committee exists, a special Fire Prevention Committee should be appointed to arrange for the program to be carried out in that town.

The committee should enlist the support of the local newspapers in order that the widest publicity may be given to the movement. The editors of all local papers are keenly interested in the welfare of the communities in which their papers circulate and, as this is a matter of civic interest, they will be found willing to co-operate in every way for the success of the campaign.

(Continued on page 2)

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 609-610 Hamm Bldg.  
Saint Paul, Minn.

Published monthly in the interest of Fire  
Prevention and Fire Protection

SAINT PAUL, APRIL 15, 1921

The Bulletin will be mailed to any address  
regularly upon request

**SPRING CLEAN-UP CAMPAIGN.**

**S**PRINGTIME is cleaning time. It has come to be an established custom to clean house and shop in the spring. It is the time of the year when folks start fixing up or making repairs in and about the home and the shop. Much soap and water are used. Paint also is used freely. Garden making and raking of lawns and back yards is contagious. The clean-up spirit is naturally broadcast in the spring. The wide awake merchant is devoting his window space to the display of mops, brooms, buckets, scrubbing brushes and step ladders, paint brushes and paint, rakes and other garden tools, all suggestive of cleaning up, fill his windows. Rubbish and trash are being carted away and ashes are being hauled to the dump.

Most of this activity is due to a desire to make the home or shop more attractive to the eye. Why not bear in mind the matter of making them safe at the same time? Safe from fire, giving special attention to the things that cause fire and see to it that these possible causes are eliminated and that defective conditions are corrected, making our surroundings safe as well as attractive.

Dispose of everything combustible that has passed its usefulness. Permit nothing of this nature to remain in the basement, attic or storeroom.

Carefully inspect all electrical appliances and wiring and correct any defects.

Have chimneys and flues cleaned in the spring. There is a double reason for this last suggestion, especially with reference to metal smokepipes leading from heating plants, for they should be cleaned at least once a year and it is better to do that cleaning in the spring in order that the soot that has accumulated in them during the winter months will not remain there through the summer when the plant is not in operation, during which time the pipe would gather moisture, causing the pipe to corrode and rust through thus shortening the life of the pipe and necessitating its being replaced much sooner than if properly looked after.

**Spring Clean-up Campaign**

(Continued from page 1)  
**SUGGESTED PROGRAM**

**SUNDAY, MAY 1.**

Announcement of the spring clean-up by pastors at church services, devoting some time to the discussion of the subject, if time will permit.

**MONDAY, MAY 2.**

School day. Inspection of all schools. Fire drill in all schools. Have teachers explain to all pupils what a clean-up means, not only to them, but to the entire community. If possible, give out home inspection cards to be filled out by the children, so that actual home conditions can be arrived at. Address to the children by the fire chief or some of his men.

Night meeting of Fire Prevention Committee. Reports of sub-committees on ways and means, women's club, housewives' section, boy scouts, schools, the clergy, etc.

**TUESDAY, MAY 3.**

Inspection of town starts. Exhibition at noon by the fire department.

**WEDNESDAY, MAY 4.**

Inspection continued.

**THURSDAY, MAY 5.**

Inspection continued.

**FRIDAY, MAY 6.**

Inspection and tabulation of inspection work.

**SATURDAY MAY 7.**

Fire prevention luncheon by Chamber of Commerce or Board of Trade.

Last general inspection.

Final reports and mass meeting at night. Mayor reports "Our Town Safe!"

**Clean-Up Suggestions.**

Let the women, the boy and girl scouts and the children handle home inspections.

Work of inspecting manufacturing plans, offices, public buildings, churches and schools should be done by the Fire Chief, members of Fire Department and local Fire Prevention Committee.

Rubbish should be burned under direction of the fire chief.

Bale waste paper. It is worth money. Old iron, metals, discarded furniture, etc., all have a value.

Do not burn anything that can be converted into cash.

Whitewash is a good fire retardant and makes an unsightly fence look respectable.

Every available space that will grow things should be put into vegetables. Every vegetable that matures is that much off the high cost of living.

After you have cleaned up your premises, help your neighbor. He may not know how.

A bushel of potatoes is a bigger asset to a family than an ash pile.

Examine into the town's water supply. Is it equal to a conflagration test?

After you have cleaned your town up, keep it clean!

**Sources of Aid.**

Any or all of the following allies can be called into action during the spring campaign: Local fire prevention committee, fire chief and members of fire department, city and county officials, business men's organizations, commercial clubs, chamber of commerce and boards of trade, the clergy, schools and teachers, women's clubs and organizations, labor and factory organizations, boy and girl scouts, Sunday school teachers and superintendents, doctors, bankers, building and loan people, paint and hardware men, seeds men, druggists, wall paper dealers, tanners, plumbers, carpenters, masons, hotel men, the street, interurban and steam railways, the good roads people, police, health department, in fact every one in town has some interest or can aid in some manner in a clean-up.

**Sample School Program.**

Be sure and invite the parents and relatives of the children to this meeting.

Music—"The Star Spangled Banner."

Address by the school superintendent on "What Fire Prevention Is."

Essay—"Why Our Town Should Be Clean" by a pupil.

There might be prizes offered and an essay contest conducted to stimulate interest.

Talk to the children by the fire chief.

Remarks by teachers and parents.

Essay—"What I Would Do in Case Our House Caught Fire."

Essay—"The Common Fire Dangers of the Home."

Giving out of questionnaires.

Song—"America."

**Scouts Program.**

Perhaps you have a boy or girl scout troop in your town. If so, you have a powerful ally. The scouts can materially assist the women and the school children in home inspection work. In fact, these two organizations are good anywhere you put them. Here is a suggested program:

Parade of scouts headed by band or drum corps.

Exhibition of scout fire drill work.

First aid exhibition.

Rescue work, etc.

Address by Scout Master on "How to Make a Home Inspection," or on some other suitable topic.

**Employer and Employee.**

Meet at plant at noon. If possible, serve luncheon.

Talk by owner or manager on "What Fire Prevention in This Plant Means to Me."

Talk by plant fire chief or some foreman on "What Fire Prevention in This Plant Means to Us."

Pledge between employee and employer.

"Let no careless act of ours make this plant a blackened ruin!"

Exhibition of plant fire department or fire fighting unit.

Song, "America," all standing.

(Continued on page 3)

# Spring Clean-up Campaign

(Continued from page 2)

## Mass Meeting Program.

Call to order by the mayor.

Invocation.

Song, "The Star Spangled Banner."

Address by some good speaker on "Why This Mass Meeting Is Called."

Address by fire chief, "Our Fires in This Town and How They Can Be Prevented."

Address by insurance man on "What Makes the Rate."

Address by some prominent business man on "Our Town's Needs and How to Meet Them."

Organization of a strong fire prevention clean-up committee.

Other topics and thoughts will suggest themselves for this meeting.

## SUGGESTED PROCLAMATION BY MAYOR.

# PROCLAMATION

Spring Clean-up Campaign.

**HEAR THIS, YE PEOPLE! THINK!!**

**ACT!!!**

Come on. Let's put things in order. Our whole city can and should be made as clean and orderly as its cleanest home. Then we will have a safer, happier healthier city.

Ambition in its highest conception is to dream big dreams and make them come true. The splendid ambition to have a city clean and beautiful is soon to become a reality by the co-operation of all the people.

Therefore, by virtue of the authority vested in me as Mayor, and with the hearty approval of many far-seeing and zealous citizens, we hereby proclaim the week of

May First to May Seventh as the Opening Week of a Continuous

## CLEAN-UP CAMPAIGN

Away with the rubbish piles! Clean up the streets and alleys! Cut the weeds, mow the lawns and trim the hedges! Repair and paint every building that needs it.

We need this thorough cleaning and renovation. It is the sensible thing to do—for the health, safety, thrift, pride and happiness of all our people.

It is everybody's job. Every man, woman and child will be expected to help. Let there be no slackers.

(Signed) THE MAYOR.

Clean up your city and you will turn the knockers into boosters. No longer will you hear anyone say, "I would like to leave this dirty hole," or "Our town is the dirtiest place on the map."

No other individual in the community has such power and influence as the Mayor for taking the leadership in the local Clean Up Campaign.

Abraham Lincoln said:

"I like to see a man proud of the place he lives in."

## FIRE PREVENTION INSPECTION QUESTIONNAIRE.

This blank can be added to or reduced as the case may be to suit local conditions, and is meant now for the smaller municipalities:

Name of school.....

Name of teacher.....

Name of pupil.....

Location of home.....(street, etc.)

Do you burn coal, gas or wood?.....

Are your chimneys clean and in good repair?.....

Are the roofs in good repair and free from curled up shingles?.....

Any inflammable rubbish in garret, cellar, room, barn, garage or out-building? .....

If so, where is it located?.....

Are your floors protected from the stoves by metal mats or other non-inflammable material? .....

Are furnaces or stovepipes in contact with joist, walls, floors or other wood? .....

If you burn gas, have you any rubber tube connections?.....

If so, where are they located?.....

Where do you keep the coal oil can?.....

Where do you keep the gasoline can?.....

Are there any paints or oils of any kind in the house?.....

Where are they kept?.....

Do you have an oil mop?.....

Where kept? .....

Is it in a tight covered can?.....

Any flue holes stopped with rags or hidden by wall paper or pictures?....

Have you fire buckets, fire extinguishers, garden hose, or other means of protection from fire?.....

Do you have fire drills at home so you would know what to do at night if fire broke out?.....

Are halls clear of chairs and stairways free from obstructions?.....

Do all the windows in the house open easily?.....

Do you use electric irons or cooking utensils of any kind?.....

If there are electric wires in the house did an expert put them in?.....

Have you a telephone?.....

Do you know how to get the fire department in case of fire?.....

Can you turn in a box fire alarm?.....

Where is your nearest fire alarm box located?.....

Do you tell your parents what you have learned about Fire Prevention at school? .....

Do you talk it over at night?.....

Where do you keep your matches, and what kind do you use?.....

Do you have oily rags in house, or garage, and where are they kept?.....

Other questions could also be asked. These questionnaires can be turned over to the general committee for their guidance. What you want to find out from the questionnaire is, "What hazards have we in our homes in this town?"

## A TIMELY WARNING.

The attention of the fire marshal's office was recently called to the fire hazard existing at this time of the year on the premises about lake resorts, caused by the accumulation of dry leaves and grass about cottages or summer homes, few of which are occupied at this time of the year.

The possibility of lighted cigarettes, cigars or matches being thrown from passing automobiles and setting fire to dry vegetation clearly increases the fire hazard to such property. In fact, it has been found that many such fires occur at this season of the year during the absence of the owners, resulting in the loss of many cottages.

Owners of lake homes are urged to protect such property by cleaning up and disposing of all inflammable matter without delay.

**IT'S EASY TO ORGANIZE.**

This is the "easiest big job" you ever tackled. The objective is so fine and the reward so great that the work will be like play. The reasons for this are obvious.

Every human being hopes to enjoy good health, prosperity, and a ripe old age. Self preservation is the first law of nature, and the greatest promoters of health and long life are cleanliness and sanitation.

## OUR SENTIMENTS TOO.

The following editorial appeared in the Mankato Free Press sometime ago and no doubt expresses the sentiment of the citizens of Mankato. The facts in the case fully justify the attitude of the Free Press.

"The people of Mankato should see to it that the strongest kind of a protest against the release from prison of Albert Omar and Marvin Kael is filed with the state pardon board. To set these men at liberty would be a travesty on justice and make the sentencing of law-violators to prison look like a gigantic joke. These two fellows were found guilty of the crime of arson. They not only sought to destroy property for the evident purpose of collecting the insurance thereon, but they endangered the lives of innocent people. Such wanton, brazen and dastardly efforts in wrong-doing are not entitled to the least clemency. It is to be regretted that men who would resort to villainous deviltry cannot be sent to the gibbet."

Omar and Kael stand convicted of a crime which was necessarily pre-meditated and committed on a night when the wind was unusually high, in fact one of the worst in the history of Mankato, and thus not only endangered the lives and property of those asleep in the building where the fire was set but also the lives and property of hundreds of other innocent people in that part of the city for had it not been for the efficient work of the Mankato Fire Department this fire would undoubtedly have developed into a conflagration.

**TOTAL LOSSES FOR MONTH OF MARCH, 1921.**

No. of Fires	Value of Bldgs. and Contents	Damage to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	47	\$ 812,795	\$ 12,700
Minneapolis .....	77	2,781,200	69,470
Duluth .....	13	320,200	47,081
Outside Three Cities.....	100	979,375	204,429
	—	—	580,341

MARCH 1933

	No. of Fires	Value of Bldgs. and Contents	Damage to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	48	\$ 663,350	\$ 86,690	\$ 558,800
Minneapolis . . . . .	75	1,117,650	95,799	765,000
Duluth . . . . .	19	144,250	15,066	85,500
Outside Three Cities. . . . .	118	1,329,229	575,851	742,125

BULLETS CONDEMNED DURING THE MONTHS OF FEBRUARY AND

MARCH, 1921

M66b

# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. INETITELTON, Fire Marshal

Room 330, State Capitol

JUN

UNIVERSITY OF ILLINOIS LIBRARY

No. 26

Saint Paul

May 15, 1921

## Forest Protection Week

May 22 to 28  
1921

### Does Minnesota Need It ?

WHEREAS, the destruction by forest fires in the United States involves an annual loss of approximately \$20,000,000 and the devastation of approximately 12,500,000 acres of timberland and other natural resources, and

WHEREAS, the present deplorably large area of non-productive land is being greatly increased by 33,000 or more forest fires which occur each year, and

WHEREAS, the menace of a future timber shortage threatens to become a present economic fact seriously affecting our social and industrial welfare, and

WHEREAS, a large percentage of the forest fires causing the annual waste of natural resources may be prevented by increasing care and vigilance on the part of citizens:

THEREFORE, I, WARREN G. HARDING, President of the United States, do urge upon the Governors of the various States to designate and set apart the week of May 22-28, 1921, as Forest Protection Week, and to request all citizens of their States to plan for that week such educational and instructive exercises as shall bring before the people the serious and unhappy effects of the present unnecessary waste by forest fires, and the need of their individual and collective efforts in conserving the natural resources of America.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States of America to be affixed.

DONE in the District of Columbia, this 7th day of April, in the year of our Lord One Thousand Nine Hundred and Twenty-one and of the Independence of the United States of America the One Hundred and Forty-fifth.

WARREN G. HARDING  
By the President:  
CHARLES E. HUGHES,  
Secretary of State.

FOREST PROTECTION WEEK ENDORSED BY GOVERNOR  
J. A. O. PREUS.

President Harding has issued a proclamation asking the Governors of the various states to designate and set aside the week of May 22 to 28 as Forest Protection Week. This I am pleased to do, and I therefore request and urge all citizens of Minnesota to plan for that week educational and instructive exercises to bring before the people of our state the serious losses resulting from the unnecessary waste by forest fires.

In the years 1916 to 1920, inclusive, the loss from forest fires was \$85,000,000, covering an area of 56,488,000 acres, the Federal Department of Agriculture informs us. Minnesota has been among the worst sufferers through forest fires, the loss in this state alone running into millions of dollars of property and hundreds of human lives.

If the forest fire waste is permitted to continue, it will rapidly hasten a future timber shortage. As conservators of water, and of wild animal life and in many other ways, our forests are essential to our industrial and social welfare.

The federal forest service spends over a million dollars a year in detecting and suppressing forest fires. The Minnesota legislature has appropriated \$125,000 for this purpose for the coming year. State and federal fire fighters, however, will accomplish little without public co-operation in preventing and suppressing fires.

This co-operation, I am sure, all our people will be glad to give, if the matter is brought to their attention. I therefore especially urge our newspapers, and the officials and teachers in our schools, to emphasize the need for forest protection during the week of May 22 to 28 and give adequate instruction in the need and the methods of forest fire prevention.

J. A. O. PREUS,  
Governor of Minnesota.

(Continued on page 3)

# FIRE MARSHAL BULLETIN

## State of Minnesota

## FIRE MARSHAL BULLETIN

**George H. Nettleton, Fire Marshal**

Office 609-610 Hamm Bldg.  
Saint Paul, Minn.

Published monthly in the interest of Fire  
Prevention and Fire Protection

SAINT PAUL, MAY 15, 1921

The Bulletin will be mailed to any address  
regularly upon request

### BURNING UP THE FUTURE

**B**LESSED with an inheritance of vast natural resources, the American public has always been too prodigal of its wealth. The presence of rich soil, copious water supply, and minerals and timber in abundance, has resulted in an attitude of indifference as to the possibility of their exhaustion.

There is always a day of reckoning, however, and this is particularly true in regard to our timber resources. We have been thoughtlessly permitting the destruction of our forests by fire to an extent that must sooner or later spell disaster if the rate of burning is not checked. As a matter of fact, lumber is already scarce as compared with conditions a few years ago.

On another page of this bulletin is a tabulation showing that the recorded loss of property due to forest fires amounted to \$85,715,747 during the five years ended with 1920. The magnitude of the territory burned over during this period, 56,488.307 acres, is also startling; it represents an area larger than that occupied by Utah. Nothing is included in these Government figures to indicate the loss of life in forest fires, although it is sometimes heavy as in the Minnesota catastrophe of 1918, wherein nearly a thousand persons were either burned to death or suffocated.

In addition to the lives sacrificed and the growing timber lost, there usually is an attendant destruction of settlers' homes that frequently are unprotected by insurance.

As far as the forests alone are concerned the yearly losses by fire are sufficiently serious in themselves, for the timber supply of the country is being cut and destroyed four times as fast as it is being renewed. Trees that have required 50 to 100 years to mature are razed in a few hours and unfortunately they cannot be replaced in any shorter time than that required by the original growth. There is no "jazz-time" in Nature's scheme of development.

Thus in destroying the forests we are not only damaging the present, but we are literally burning up the future.

Another factor that has not been considered is the effect of deforestation upon our water supply; nevertheless the two resources are closely interdependent, and a forestless America would mean a desert America. We hope that every insurance man will do all that is in his power to further the protection of our forests, as a matter of public welfare. In a number of states special legislation to safeguard our timber tracts is pending, and a patriotic service of great value will be performed by those who aid in the passage of such bills.

(*Safeguarding America Against Fire.*)

### PROTECTING OUR FOREST RESOURCES

Forest fires in Minnesota have killed over one thousand people, burned up more timber than ever was cut and destroyed various kinds of property amounting to many millions of dollars. During 1920 over nine hundred fires, covering approximately ninety-seven thousand acres, were extinguished by the rangers and the cooperative organizations before they did much damage.

During the past nine years there has been a steady increase in interest shown by the residents of the state in preventing fires; this, due to the untiring work, namely along educational lines, of the rangers.

The state law provides the Forester with authority to appoint township firewardens, and as a result 510 commissions have been accepted in the 710 townships which comprise the more heavily timbered portion of the state. These men have the authority of forest patrolmen and can grant

A tree will make a million matches,  
but a match will start a fire that  
will burn a million trees.

burning permits.

In addition to this, 368 townships, acting under the law enabling them to assess the township property for fire protection purposes, raised funds to the amount of \$142,000 with which to employ fire fighters who work under the supervision of the forest rangers.

#### Railroad Cooperation.

The railroads employ ninety-eight patrolmen to follow the trains and extinguish any fires which might be discovered on or near the rights-of-way and they alone reported and extinguished over three hundred fires.

These men also work under the supervision of the District Rangers; they are put on duty or taken off at the ranger's request. The railroads during 1920 spent approximately \$100,000 on their patrolmen and fire fighting equipment in addition to actual fire fighting expense and cost of keeping rights-of-way and locomotives in fair condition as regards fire protection.

The exact figures on the amount of money spent by lumber companies is not definitely known, but it was approximately \$50,000. This does not include the expense of taking care of

(Continued on page 4)

1924

MANKATO

1924

Mankato has her hat in the ring  
for the 1924 convention of the  
Minnesota State Fire Department Association.

Incidentally Ben Bangerter, Mankato's efficient Fire Chief, will have to land the office of Second Vice President. Ben is just the boy that can land it for if he goes after that like everything else he undertakes his election is assured. He will put up a fight for it not for himself but to make Mankato the Host of the '24 convention and as a Convention City a more delightful place could not be selected within the borders of the state.



Railroad Locomotives are the Chief Offenders; They Cause Fully One-seventh of All Forest Fires. In New Hampshire, during 1920, Nearly 75% of the Forest Fires were Due to This Cause.

The Careless Burning of Brush and Trash by Farmers and Others, Causes Nearly as Many Fires as do the Railroads. Such Fires are Most Prevalent in the Southeast and in the Mississippi Valley.

Incendiarism Ranks Third; It Causes More than One-eighth of all Forest Fires, and is Most Prevalent in the Southeast and in the Mississippi Valley Where the Stockmen, in Particular, Deliberately Set Fire to the Woods to Improve Grazing conditions.

# FIRE MARSHAL BULLETIN

## FOREST PROTECTION WEEK

(Continued from page I)

### FOREST FIRE FACTS

One tree will make a million matches.

One match will kill a million trees.

Minnesota has lost on an average, two million dollars each year by forest fires.

Fires destroy the beauty of our forests, streams, and lake shores.

Three hundred thousand people visit the state yearly to enjoy our woods and lakes.

If fires are controlled Minnesota's present forest area will produce sufficient timber to keep her sawmills and paper mills running indefinitely.

Forestry is Minnesota's second industry.

More timber has been destroyed by fire than was ever cut. Even light running fires kill the little trees.

It is part of your duty to your state to keep down the fire losses and to plant more trees.

### YOU CAN HELP WILL YOU?

### MINNESOTANS

The following record is a terrible indictment of the carelessness and indifference of Minnesotans in the matter of the prevention of forest fires. Minnesota's loss to property in the last five years has been nearly \$31,000,000. Its loss was greater than the aggregate loss of the next seven highest states. Of course, the Moose Lake fire was responsible for the larger portion of this enormous loss but the Moose Lake fire occurred in Minnesota and it was largely the result of carelessness and indifference of the people of the state.

Let us all do everything within our power to prevent a re-occurrence of that awful conflagration.

## WARNING

Don't burn brush in a dry time without a permit.

Your township fire warden issues these permits.

Don't try to burn in a high wind.

Don't start fires for brush or mea-

dow burning during the heat of the day.

Don't leave a fire unattended.

Don't start your fire without proper means of controlling it.

Don't forget, when you burn your brush, to consider your neighbor's property.

### FIVE YEARS' FOREST FIRE LOSSES IN FORTY-FIVE STATES

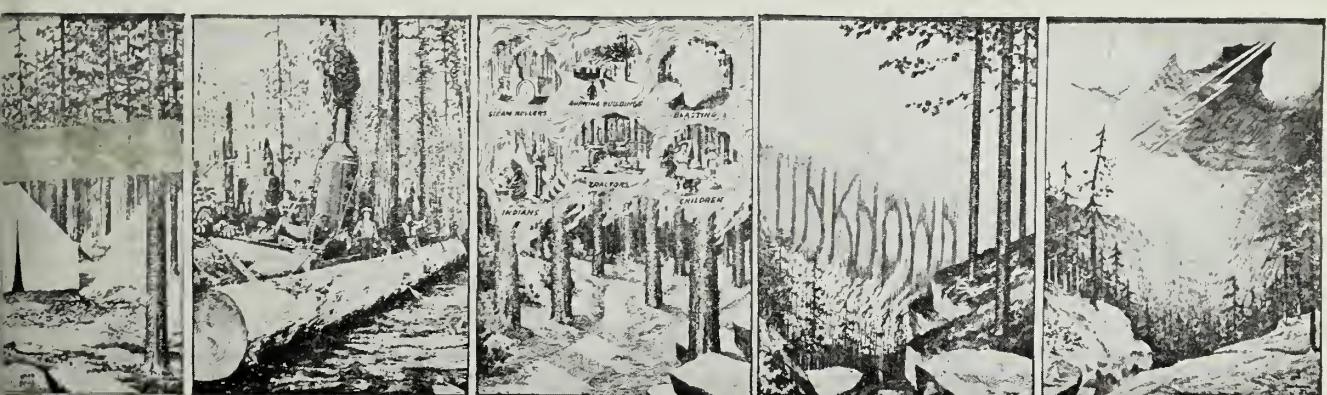
(1916-1920)

State	Total No. Fires	Total Area (Acres)	Total Damage
Maine . . . . .	461	72,415	\$411,718
New Hampshire . . . . .	2,882	32,122	240,576
Vermont . . . . .	237	5,126	12,930
New York . . . . .	1,635	55,841	31,336
Massachusetts . . . . .	9,238	110,418	402,811
Rhode Island (1916-17 missing) . . . . .	138	7,658	42,087
Connecticut . . . . .	3,702	129,296	454,072
New Jersey . . . . .	3,365	260,773	336,887
Pennsylvania . . . . .	7,272	1,084,344	2,553,366
*Delaware . . . . .	15	826	13,548
Maryland . . . . .	705	102,089	240,017
Virginia . . . . .	5,847	1,113,216	3,234,332
Missouri . . . . .	7,280	2,670,477	1,238,798
Arkansas . . . . .	5,948	3,238,936	1,147,944
Oklahoma . . . . .	1,979	557,746	354,560
Louisiana . . . . .	3,001	8,522,385	2,932,608
Texas . . . . .	2,036	2,460,701	1,185,735
Michigan . . . . .	3,102	1,210,160	1,062,501
Wisconsin . . . . .	451	451,433	298,102
<b>Minnesota</b> . . . . .	<b>3,197</b>	<b>2,189,580</b>	<b>\$30,895,868</b>
South Dakota . . . . .	415	5,248	34,094
Nebraska (1920 data lacking) . . . . .	25	12,022	4,783
West Virginia . . . . .	938	278,366	299,257
North Carolina . . . . .	8,183	1,754,991	7,892,891
South Carolina . . . . .	2,793	1,685,765	934,689
Georgia . . . . .	20,059	5,051,773	4,278,604
Florida . . . . .	6,548	7,827,627	4,752,044
Alabama . . . . .	7,159	2,960,116	2,184,305
Mississippi . . . . .	6,068	4,142,472	2,033,061
*Ohio . . . . .	466	26,112	120,395
*Indiana . . . . .	513	132,348	28,056
*Illinois . . . . .	462	74,722	89,007
Kentucky . . . . .	494	68,940	161,482
Tennessee . . . . .	4,205	1,356,360	1,792,003
Montana . . . . .	5,017	743,878	2,090,845
Idaho . . . . .	6,502	1,554,880	4,021,607
Wyoming . . . . .	447	33,625	248,927
Colorado . . . . .	882	9,971	11,474
Arizona . . . . .	2,173	85,738	34,159
New Mexico . . . . .	956	63,168	38,314
Nevada . . . . .	54	3,043	1,713
Utah . . . . .	156	4,361	4,543
Washington . . . . .	5,887	994,670	2,607,535
Oregon . . . . .	9,025	1,303,898	2,723,456
California . . . . .	8,380	2,038,371	2,197,677

Total . . . . .

\*(1916 and 1920 only.)

### OUR FOREST FIRES ARE CAUSED



s, Including all Seekers in the Hold Fourth Causing Nearly hth of the For- s. The Principal rs are Careless s. Particularly Using the So- "Tailor-Made" te.

Lumbering Stands Fifth as a Fire Hazard and Is Charged With Causing One-sixteenth of the Timberland Fires. Al- though in the States Where Lumbering is one of the Chief Industries It Is Found To Be a Major Fire Cause.

Miscellaneous Causes such as Steam Rollers, Tractors, Blasting, Burning Buildings, Indians and Children are Also Responsible for About One-sixteenth of all Forest Fires.

About One-fourth of the Timberland Fires are Due to Unknown Causes. Nearly all Such Fires, However, are Believed to Be Caused by Some Human Agency.

Lightning is Held to Cause About One-ele- venth of all Forest Fires. During 1920 Nearly 89% of Such Fires Occurred West of the Great Plains Where Rainless Thunderstorms Are Not Infrequent.

# FIRE MARSHAL BULLETIN

## TO TOURISTS AND CAMPERS:

The following letter was recently received from a citizen residing in the northern part of the state. It comes from a man who has suffered from fire due to the carelessness and indifference of others. It is one of many appeals that come to the attention of the department for assistance in the matter of determining the origin of fires. The Fire Marshal's office will, of course, make a thorough investigation of this case but like most other fires it is hard to determine the origin of a forest fire for the reason that many such fires start from cigar or cigarette stubs thrown from automobiles.

Read the following letter carefully and put yourself in the place of the man who wrote it and then make a solemn resolution that as far as you are concerned no forest fire will ever have its origin through any act of carelessness or indifference on your part.

May 6, 1921.

Office of State Fire Warden.

Sir:

I would like to have your office investigate the fires that have been running wild in this part of the country for the past month and are making some people a great deal of trouble. Last year my whole forty acres were burned black excepting a small patch and yesterday there were five fires started in a line on the east side of my place. Three of them I put out with the help of a neighbor. The others went out of their own accord at night. But today there were other fires to the north of me that burned over a large piece of land and the way it is keeping up people dare not leave home on business or pleasure without being in danger of being burned out before they get home again.

I lost everything I had down to the clothes on our backs for myself and family in Duluth October 12, 1918 and have no desire to have the same thing happen again but I think that a visit to this part of the country by you or one of your men will do a good deal to stop the practice in future.

Hoping to hear from you or have one of your agents call on me in the near future, I remain

Yours,  
(Signed)

## Protecting Our Forest Resources,

(Continued from page 2)

the slash resulting from the operation of 2,000 logging camps.

By cooperating with all of these different forces, with the agricultural county agents, with the University Extension Division, with the State Game and Fish Commissioner, with the State Highway Commission, with the Adjutant General's Department and with other state and county officials, the rangers constitute an in-

fluence strongly felt for the betterment of the country.

The success of the past year's work is due principally to the fact that, for the first time in the history of the service, somewhere near sufficient funds were available. This was brought about by the use of money set aside by the State Relief Board for fire protection.

W. T. COX,  
State Forester.

## TOTAL LOSSES FOR MONTH OF APRIL, 1921.

	No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	42	\$784,850	\$21,750	\$154,000
Minneapolis . . . . .	71	2,614,850	206,842	2,049,363
Duluth . . . . .	12	281,700	5,305	204,700
Outside 3 Cities . . . . .	139	824,411	334,171	447,735
Total . . . . .	264	\$4,505,811	\$568,068	\$2,855,798

## APRIL, 1920.

	No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	39	\$948,600	\$29,090	\$716,350
Minneapolis . . . . .	77	1,763,850	61,333	926,100
Duluth . . . . .	13	926,100	10,170	91,200
Outside 3 Cities . . . . .	92	638,048	218,260	280,142
Total . . . . .	221	\$3,494,998	\$318,853	\$2,013,792

## BUILDINGS CONDEMNED DURING APRIL, 1921.

### St. Paul.

OWNER	LOCATION	KIND OF BLDG.
Fred F. Zwar,	327 Maple St.,	Shed
John M. Carlson Estate,	229 W. 5th St.,	Shed
Lizzie B. Schliek,	228-232 W. 6th St.,	Store
Bert L. Cook,	S. Lexington Ave.,	Burned Shack
Emil H. Steiger,	168 E. Acker St.,	Dwelling
Melissa McCrea,	625 Raymond Ave.,	Dwelling
Jos. P. Weber,	612 Orleans St.,	Barn
J. G. Jones,	629 Raymond Ave.,	Dwelling
Rose M. Clarkin,	193 McBoal St.,	Barn & Shed
Arcade Investment Co.,	347 Wabasha St.,	Barn
Robert A. Uihlein,	517 Mississippi St.,	Shed
Anna Marks,	53 W. 10th St.,	Dwelling
Jeremiah O'Brien,	543 St. Peter St.,	Barn & Dwelling
Michael Stojanovich,	Park Ave. & W. Acker,	Livery Barn
Nellie W. Montague,	273 Pleasant Ave.,	Shack
Anna Wittels,	1308 Newton Ave. No.,	Barn
Simon Johnson,	732 E. 3rd St.,	Dwelling
B. S. Collins,	729 E. 4th St.,	Barn
Byron Knapp,	At Large	Barn
Thomas H. Sparrow,	Park Rapids,	Plumbing Shop
Charles E. Bell,	Sauk Rapids,	Barn
Daniel S. Hayward,	Sauk Rapids,	Ice House
Louisa C. Stevenson Estate,	St. Cloud,	Ice House
John Oster & Ferdinand Peters,	St. Cloud,	Shed
Peter J. Seberger,	St. Cloud,	Bldg. & Shed
Rosa Brown,	St. Cloud,	Barn
	St. Cloud,	Barn

## A RECORD OF FIVE YEARS' FOREST FIRES

United States, (Exclusive of Alaska)

Causes:	Lightning	Railroads	Lumbering	Brush Burning	Campers	Incendiary	Miscellaneous	Unknown	Total
1916	3,557	4,604	2,747	6,639	3,971	6,121	2,206	11,333	41,178
1917	2,523	6,209	2,594	5,668	5,182	5,416	2,180	8,526	38,298
1918	2,925	4,396	1,388	3,241	3,326	2,314	1,847	6,209	25,646
1919	2,721	3,820	1,435	3,106	4,041	3,125	1,916	6,718	26,882
1920	3,904	4,818	1,721	3,174	3,724	3,070	1,476	5,933	27,820
Total	15,630	23,847	9,885	21,828	20,244	20,046	9,625	38,719	159,824
Per cent.	9.8%	14.9%	6.2%	13.7%	12.7%	12.5%	6.0%	24.2%	100%

AUG 24

# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 27

Saint Paul

June 15, 1921

## FIREMEN'S CONVENTION AT INTERNATIONAL FALLS.

Forty-Ninth Annual Convention of the Firemen's State Association Held in the Boundary Town June 14 and 15.

By the time this Bulletin goes to press the Forty-ninth Annual Convention of the Minnesota State Fire Department Association will be in session at International Falls.

This promises to be the best attended and most important convention in the history of the state association. Firemen delegates from practically every fire department in the state will be there to take part in the deliberations and enjoy the hospitality of the firemen on the boundary.

Aside from the regular program outlined by the convention committee of International Falls, there will be exhibits of fire department supplies and motor driven apparatus to interest the delegates and visitors.

The State Fire Department Relief Association, auxiliary to the main body, will take form at this convention and become a real factor in the life of the fire department association.

The committee appointed at the Moorhead convention last year to revise the constitution and by-laws, will bring in the results of their labor for approval by the convention.

John A. Gross, secretary of the state association, is authority for the statement that this convention will excel all others, as he has advance information from authoritative sources which indicate that the boys from up North are prepared to show the firemen the time of their lives.

There will be a spirited contest for the office of 2d vice president. This election carries the convention to the lucky town in 1924. The contest will be between Chief Bangerter of Mankato, Chief Guith of Crosby, Asst. Chief Arthur Rice of Winona and Capt. J. W. Pierce of Pipestone. These towns will be on hand with good delegations and each will have its following.

The convention goes to Rochester in 1922 and to Bemidji in 1923.

## Spring Clean-up Campaign

The official dates set for the campaign were from May 1 to May 7. Some towns in the state advanced the dates a week or ten days, finishing the job before May 1. Others launched their campaign later and carried it on until the last of the month.

### AKELEY.

The Akeley Herald-Tribune co-operated with its local Fire Prevention Committee by running the following announcement of the campaign: "SPRING CLEAN-UP CAMPAIGN MAY 1ST TO MAY 7TH."

Make thorough inspection of your homes and places of business. Remove everything from cellar to garret of inflammable nature. Keep your homes, stores and industrial plants free from rubbish and inflammable material. This is for your safety as well as your neighbor's.

PLACE: THROUGHOUT MINNESOTA.

TIME: MAY 1-7.  
George H. Nettleton, State Fire Marshal."

### GLENCOE.

Clean-up week in Glencoe was inaugurated Monday, May 2d, by a program under the auspices of the Housekeepers' Club, a local organization of women. Mr. Bass, a representative of Holm & Olson, florists, spent the afternoon with a local committee viewing the town, making suggestions as to cleaning and beautifying. At 6:30 a Maybasket supper was held in the Crystal ballroom, which defrayed expenses and was also very enjoyable. The evening program was given at the Crystal Theatre and opened with music by the High School orchestra, also community singing under the direction of Mrs. Frank Reimers. Mr. Bass gave a talk, in which he summed up the results of his observation of the town. A number of slides were shown illustrating what shrubbery and flowers can do to redeem unsightly spots, also the most desirable way of distributing shrubbery, trees,

gardens and flowers. He emphasized the fact that it is not necessary to have extensive grounds to make the home attractive. Absolute cleanliness and neatness, well chosen shrubbery and care of the grounds are more important.

Following this talk, a reel of pictures on fire prevention was shown which was very instructive and timely, as it showed how rubbish heaps and refuse are often responsible for costly fires. The Boy Scouts and Campfire girls were present, and the program was an incentive to them to assist in cleaning and improving Glencoe, and keeping it clean.

Glencoe citizens felt well repaid for their efforts and that Clean-Up Week was auspiciously and enthusiastically begun.

### ORTONVILLE.

According to the Ortonville Journal, Ortonville put on a real clean-up campaign.

If every city in Minnesota would get back of the Spring Clean-Up Campaign as Ortonville has and then keep it up throughout the year, the annual Minnesota fire losses would be greatly reduced.

In the first place Ortonville could not wait for May 1 but started its drive on April 25 and closing April 30. First a public meeting was held at which a committee was appointed to plan the clean-up. The town was divided into districts and captains appointed for each district. Men, women and children of the town were urged to clean up their premises. All rubbish and trash to be disposed of was deposited in specified places to be collected by teams provided by the committee, the committee having solicited the business men of Ortonville who donated freely to a fund to be used in defraying the necessary expense in connection with the drive.

Friday, April 29, was the big day. By that time everyone was supposed to have his own home and yard cleaned up and ready for inspection.

(Continued on page 2)

## FIRE MARSHAL BULLETIN

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire  
Prevention and Fire Protection

SAINT PAUL, JUNE 15, 1921

The Bulletin will be mailed to any address  
regularly upon request

Sometime ago the following letter was received from an electrician upstate who respects the requirements of the National Electrical Code and who feels that every other man engaged in the business of installing electric wiring and equipment should do the same. Unfortunately, however, for the people who pay the bills there are a lot of fellows in the business who are careless and indifferent and who seem to have little regard for safety rules intended to protect life and property.

The conditions outlined in the letter are the cause of many of our fires and the man planning to have any work of this nature done should make sure that the man engaged is qualified to do the work.

Mr. George H. Nettleton,  
St. Paul, Minnesota.

Dear Sir: My business is contracting and building electric high lines and wiring farm buildings.

I built 20 miles last summer and wired 15 farms. The work was all inspected by the Power Company's inspector and everything was marked first class. The light and power company hired a man to supervise the work on their lines and he hired the inside wiring done. I went to work on the lines three weeks ago. The house I am working on now was supposed to be complete.

I had an inspector of the company look this work over before I started and he turned it down. I had to pull out all the wire and put on loom. It has 17 outlets. I took out about 37 feet and I have already used 250 feet of loom, 75 knobs, 35 tubes. There were four joints soldered. No joints in attic soldered or taped. Receptacle for iron cut in series with downstairs circuit. Wires under mop board, no loom and stapled to wall. Wires fished in for 15 feet and no loom, knobs or tubes.

Downstairs circuit pulled through upstairs partition and both connected to one wire, making dead short on this circuit.

No fuse block in barn. No loom at all. Cleat rosettes and lamp cord and key sockets used in basement of barn where it is real damp.

Now this is one of eight or ten

jobs and I have only seen four of them. The reason of this letter is that the farmers have paid for this work to the other man and if I had not come to the job most of this would probably never have been discovered. It cost this farmer seven dollars per outlet for work of this kind.

What they want to know is if there is any law to protect them from such work and if they can make that man pay them back.

As for the work, I am only too glad to have it inspected at any time but these men are sure getting a bad deal here and there are sure going to be some fires if this work goes on unheeded.

I thank you for any advice or suggestions on this matter. I beg to remain

Yours very truly,

## Spring Clean-up Campaign

(Continued from page 1)

and to be ready to report at headquarters to be assigned to a squad to go out and clean up vacant lots or public places needing attention.

A special committee of ladies assumed the responsibility of serving luncheon for the workers at the Court House.

The following instructions, which appeared in the April 28 issue of the Ortonville Journal, give a pretty good idea of how the committee went about the task.

### SHORT CLEAN-UP NOTES.

- Clean-up headquarters will be established in the Moore Land Office where the committee, consisting of C. E. Scofield, N. J. Wilkins and A. L. Moore will be in charge and direct the work. The committee will be "on the job" at 8 o'clock in the morning and remain all day Friday.

- All people reporting for clean-up work will first report at this office and receive assignment of work from this committee. If you are assigned to a job, when you have completed that job, report again to the committee for further assignment. There will always be something more to do.

- Teams and trucks will follow the same plan as outlined above—report to the committee at the Moore Land Office.

- Lunch will be served at the Court House at noon for all the workers.

- Bring a shovel, rake or fork with you if possible.

- If it is impossible for you to assist with the work in the forenoon, come along in the afternoon.

The City of Minneapolis conducted one of the most effective spring clean-up campaigns ever held in the state. A detailed account of it will be given in the next issue of the bulletin.

Other towns that have reported clean-up activities for the week are Ely, Mankato, St. Cloud, Kenyon, Pierz and St. Peter. It is known

that a number of other towns in the state conducted a spring clean-up campaign but they have failed to make a special report.

## CHAPTER 450, SESSION LAWS 1921

**Laws regulating the construction  
maintenance and inspection of dry  
cleaning and dry dyeing buildings  
and establishments.**

Section 1. For the purpose of this act a dry cleaning and dry dyeing business is defined to be the business of cleaning, or dyeing cloth, clothing, feathers, or any sort of fabrics or textiles by the use of carbon bisulphide, gasoline, naphtha, benzine benzol, or other light petroleum or coal tar products or inflammable liquid, or cleaning or dyeing by processes known as dry cleaning and dry dyeing, where inflammable volatile substances are used.

No person, firm or corporation shall advertise as conducting a dry cleaning or dry dyeing business, or either, until such person, firm or corporation shall have made application to the State Fire Marshal for permission to engage in such business and paid the fee as hereinafter provided.

Sec. 2. No building or establishment shall be used for the business of dry cleaning or dry dyeing as above defined, or for the storage of inflammable or volatile substances for use in such business until an application for permission to do so shall have been filed with and approved by the state fire marshal of the State of Minnesota, and on blanks provided by him for that purpose.

Sec. 3. Upon the filing of every such application, the applicant shall pay to the state fire marshal a filing and inspection fee of ten (\$10.00) dollars.

Sec. 4. When any application is filed with the state fire marshal and the fee paid as above mentioned the state fire marshal by himself, his deputies or assistants shall make an inspection of such building, buildings or establishments and if the same conforms to the requirements of law and rules which may be prescribed by the state fire marshal for such places, then the state fire marshal shall issue a permit to the applicant for the conduct of such business, which permit shall extend until the first day of January next after the date of the issuing of same.

Sec. 5. The permits may be renewed at any time within thirty days after the termination thereof, by the filing of an application for such renewal and the payment of a fee of five dollars therefor, provided the applicant for such renewal permit has complied with the provisions of this act, and with the laws of the State of Minnesota, and the ordinances of the municipality where the business or establishment is located.

Sec. 6. All permits must be exhibited for inspection to the state

fire marshal or any of his deputies or assistants whenever the same are requested, and no one except the person to whom the same are issued shall have the right to operate a business or establishment under any permit.

Sec. 7. Permits may be refused, suspended, or revoked by the state fire marshal, for fraud in procuring the same, a violation of any law of the State of Minnesota, or ordinance of the municipality in which the business is located, or a violation of any rule or regulation lawfully provided for the conduct of any business or establishment.

Sec. 8. All buildings or establishments used or to be used for the purpose of the business of dry cleaning or dry dyeing as above defined shall be of fire resisting design and construction and not to exceed three stories in height and shall be without basement, cellar or open space below the ground floor, the workroom where all dry cleaning is done to be located on the ground floor. Such building must also comply in all other respects with the provisions of this act. Fire resisting construction is defined to consist of the use of fire resisting material as follow: brick, hollow tile, steel and concrete or reinforced concrete. Any building in which gasoline, naphtha, benzol, carbon bisulphide or light petroleum or coal tar products are used in connection with a dry cleaning or dry dyeing business must be at least fifteen (15) feet from any other building or lot occupied for business, dwelling, manufacturing, or storage purposes, except the building used for operating a dry cleaning or dry dyeing business.

Sec. 9. All walls of such dry cleaning and dry dyeing buildings or establishments shall be of brick laid in cement mortar, or of reinforced concrete not less than twelve inches in thickness, or of stone, laid in cement mortar not less than sixteen inches in thickness, or of other non-combustible and fire-resisting material constructed of a thickness of not less than twelve inches. The roof of such building shall be of fire-resistant construction.

Sec. 10. There shall be no sewer connection with such dry cleaning or dry dyeing building or establishment, and the floor of the same shall be of concrete construction laid not lower than the surface of the earth surrounding the wall, and be pitched at such grade from all of its walls as to secure perfect drainage, flow of all liquids to an underground cement lined pit or well on the outside of said building, and of sufficient capacity below the level of the floor of said building to hold twice the quantity of liquids that may be used or kept in said building at any one time, the top of said pit or well to extend not less than twelve inches above the level of the floor of said building, and to be provided with a tight fitting cover, and kept locked when not in use.

Sec. 11. Ventilating apertures of size not less than sixty square inches in area shall be placed in the walls of such dry cleaning and dry dyeing buildings at or near the level of the floor, and spaced not over six feet apart from center to center; such openings shall be covered with 2x2 wire mesh, number sixteen galvanized wire web or its equal, and shall be kept clear of all obstructions and such ventilating apertures shall be so arranged as to completely change the air volume every five minutes while the plant is in operation. Other ventilating systems may be substituted for the above, which will completely change the air every five minutes while the plant is in operation provided same are approved before constructed by the state fire marshal.

Sec. 12. Skylights and windows must be of wired glass set in steel frames, skylights to be stationary and for lighting purposes only. All windows shall be so arranged so as to close automatically, the automatic release to consist of fusible links which will melt at one hundred twenty (120) degrees Fahrenheit. Such windows shall be covered with 12x12 mesh, or equivalent brass wire screen to prevent the entrance of sparks.

Sec. 13. As a means of fire extinguishment in any such buildings, the same shall be equipped with a high pressure boiler of sufficient size and horse power, such boiler to be located in a fire proof building, at least ten (10) feet from any building used for the purpose of dry cleaning or dry dyeing, such boiler to be connected with a two-inch steam supply pipe in the dry cleaning or dry dyeing room so installed as to give as nearly as possible an equal distribution of steam, and to be so placed that the steam when turned in will immediately fill the entire room; such steam pipes shall be provided with perforations or jets of one-quarter of one inch in diameter, equally spaced, so that there is one opening to every twenty-five square feet of floor space; a standard globe valve shall be placed in the steam service line or lines connected to this perforated steam pipe outside of the building, and to be accessible for operation in case of fire. The steam supply for such pipes shall be continually available for service while the plant is in operation, and shall be sufficient to completely fill the room space in less than one minute, and continue the flow of steam sufficient to keep the room space filled with steam for a period of at least thirty minutes.

Sec. 14. All steam or hot water pipes must be protected by wire screen or otherwise so as to prevent contact of pipes and inflammable goods. All windows, doors or other openings in the dry cleaning building or drying rooms within one hundred feet of exposed openings or combustible structures or materials shall be provided with wired glass in metal frames, or fireproof shutters, doors or covers. All doors shall be arranged

for ready opening from either side in case of emergency.

Sec. 15. One approved hand chemical extinguisher especially efficient for such conditions shall be provided for each five hundred feet of floor space.

Sec. 16. All dry cleaning, washing, extracting and redistilling shall be carried on in closed machines which shall be fluid tight; the outside, or shell of washers shall be made of metal and shall have hinged metal doors and shall be arranged so that in case of an explosion the doors will automatically close; the inside or cylinder of the washers may be made of wood. The transfer of all liquids shall be through continuous piping, and all outlet or drain lines shall be drained by gravity to settling or storage tanks. No dry cleaning liquid shall be settled in any open or unprotected vessels or tanks. All piping and all metallic parts of each machine shall be properly grounded by at least number ten copper insulated wire to a water pipe or other grounded device. Scrubbing and brushing may be performed in the dry cleaning rooms, but not more than one gallon of volatile fluid shall be used in any one container, and shall be so used in a metallic pan or container, and such volatile substance shall be returned to the settling or storage tanks as soon as the brushing or cleaning operation is completed.

Sec. 17. Settling tanks shall be constructed, located and vented essentially as given for the storage tanks. At the close of the day's operations all liquid contained in washers, extractors, stills or otherwise shall be returned to the stock of settling tanks. The location of all tanks, buried or otherwise, and their contents and hazards shall be plainly marked by signs as approved by the state fire marshal.

Sec. 18. No gas or gasoline engine, steam generator or heating device nor any electrical dynamo or motor shall be located, maintained or used inside of nor within a distance of ten feet of any building used for the business of dry cleaning and dry dyeing as above defined, except that an electrical motor may be placed within such ten feet but without a solid fireproof wall.

Sec. 19. The lighting of such building shall be secured only by keyless socket incandescent electric lights with globe or bulbs in vapor proof receptacles, and all switches, cut-offs or fuses used in the installation or operation of such lights shall be located and operated from the outside of such building. The interior electrical equipment must conform with the most advanced stage of the art at the time of installation.

Sec. 20. The heating of such building shall be secured only by the use of steam or hot water systems.

Sec. 21. Drying rooms if under the same roof as the dry cleaning and dry dyeing rooms must be separated from such rooms by a fire-resistant

## FIRE MARSHAL BULLETIN

wall, the entrance of such drying room or rooms shall be provided with standard, self-closing fire doors. Means for the ventilating of such drying room shall conform to the conditions provided in relation to dry cleaning and dry dyeing buildings, and the provision for the presence of steam jets for fire extinguishment must be complied with. If the drying room be a separate building, it must conform in all respects of construction and equipment to the conditions named relative to dry cleaning and dry dyeing buildings as above described.

Sec. 22. All volatile substances received for use in the business of dry cleaning and dry dyeing as above defined shall be stored in steel tanks, the shell of which may not be less than three-sixteenths of an inch thick, the exterior of such tank to be coated with an approved rust preventative, and all joints in same shall be calked in an approved manner.

Sec. 23. No storage tank shall be placed, constructed or maintained under a public sidewalk or in a sidewalk area.

Sec. 24. All such tanks shall be buried underground to such a depth as to secure a covering of earth of at least two feet above the top of the tank at the surface level of the ground.

Sec. 25. All such tanks shall be provided with a vent pipe not less than one inch in diameter, extending from the top of the tank to the outer air, and discharged at a point not less than two feet above the roof of said dry cleaning and dry dyeing building, and also be provided at the discharge end with an inverted "U" cap or gooseneck.

Sec. 26. All such tanks must be provided with a filling pipe of not less than one inch in diameter, extending from the top of the tank shell to within one inch of the bottom of the tank. Such filling pipe must be laid with inclination toward the tank to secure proper drainage; the intake end of said filling pipe shall be fitted with a controlling feed cock or valve which shall be kept closed except while in use, and the intake end of the pipe above such cock or valve shall be provided with a screw cap securely in place by an iron or other metal chain; such screw cap to be securely screwed on the feed pipe inlet when the same is not in use. Both the controlling cock or valve and the feed pipe inlet must be enclosed in an iron box or hood set level or above the surface of the ground, and be kept securely locked when not in use; such feed pipe inlet and controlling cock or valve shall in no case be located inside of any building.

Sec. 27. All pipes connected to the said storage tanks used in said dry cleaning and dry dyeing building must enter or be attached to the same at their tops; service pipes carrying volatile substances from the storage tanks to the dry cleaning and dry dyeing machines or apparatus shall extend from the top of the tank

shell, and the controlling cock or valve in said service pipes shall be kept closed when not in use.

Sec. 28. No volatile substances shall be carried or converted into the dry cleaning and dry dyeing building or any of its machines or apparatus, or be returned to the storage tanks from such devices except through service pipes as above described; the movement or transmission of such volatiles through such service pipes shall be secured by pumps or siphon only; such device to be so located as to insure the return of all volatile substances remaining in the service pipes when delivery is shut off to the storage tanks by gravity.

Sec. 29. No carbon, bi-sulphide, gasoline, naphtha, benzol or light petroleum or coal tar product used in the dry cleaning and dry dyeing business shall be distilled or re-distilled in connection with the said dry cleaning or dry dyeing business except in a building of fire-proof construction, which building must be located more than fifteen (15) feet from any other building or lot occupied for business, dwelling, manufacturing or storage purposes, except the buildings used in said dry cleaning and dry dyeing business.

Sec. 30. The provisions of this act shall not be held to apply to any building, business or establishment now in use, so as to cause the same to be rebuilt, remodeled, or repaired so as to conform to the provisions hereof, but should any building or establishment, or part thereof, be reconstructed, rebuilt or repaired, the same shall be so constructed, built or repaired in conformity to the provisions hereof. Nothing in this act shall be held to in any manner limit the laws which provide against fire hazards in this state. Nothing in this section shall permit any person to operate a business or establishment mentioned in this act without first securing a license as provided herein, for so doing, but the provisions of this section shall be given full consideration by the state fire marshal in issuing licenses to persons now engaged in said business.

Sec. 31. Should any building, business or establishment of dry cleaning or dry dyeing as herein defined, be discontinued or not carried on in any building which does not conform to the provisions herein set forth, for a period of three months, such business shall be considered as having been abandoned, and before the same can again be carried on in such building, the said building must be so constructed, repaired or rebuilt as to conform to the provisions of this act.

Sec. 32. All buildings, structures, pipes, storage tanks, electric wiring, connections and apparatus constructed and used in said dry cleaning and dry dyeing business shall be inspected and approved by the state fire marshal or a deputy or assistant before being used in said dry cleaning and dry dyeing business.

Sec. 33. Any person or persons being the owner, occupant, lessee or

agent, who shall violate any of the provisions of this act or fail to comply therewith, or who shall violate or fail to comply with any order or regulation made thereunder, within ten days or who shall build in violation of any detailed statement of specifications or plans submitted and approved thereunder, or any certificate or permit issued thereunder shall severally for each and every such violation and non-compliance respectively be guilty of a misdemeanor, and upon conviction thereof shall be fined for the first offense not less than ten dollars nor more than two hundred dollars, and for the second offense shall be fined not less than fifty dollars nor more than five hundred dollars, and imprisoned in a county jail or workhouse not to exceed six months.

Sec. 34. It shall be the duty of the state fire marshal, his deputies and assistants, to enforce the provisions of this act, and he shall have the same power and authority in the enforcement of the provisions hereof as are given to the state fire marshal under the provisions of the state fire marshal law, namely sections 5129-5166 of the General Statutes of Minnesota, 1913.

Sec. 35. All fees, penalties or forfeitures collected by the state fire marshal, his deputies or assistants under the provisions of this act, shall be paid into the state treasury.

Approved April 23, 1921.

### **YEAR'S LOSS HALF BILLION—NEED FOR CONSERVATION SEEN.**

Added significance is given to the twenty-fifth annual meeting of the National Fire Protection Association in San Francisco on June 14, 15 and 16 by the announcement that the 1920 fire loss reached the stupendous total of over \$500,000,000, despite the fact that no great conflagration was involved.

What the property destruction would have been had there been no fire prevention agencies at work during such a period of business unsettlement and readjustment following the tension of war times, no one can estimate. During its constructive activities, extending over a quarter of a century, however, much has been accomplished in carrying out the aims of the Association, which are, "To promote the science and improve the methods of fire prevention and fire protection; to obtain and circulate information on these subjects and to secure the co-operation of its members in establishing proper safeguards against loss of life and property by fire."

### **OFFICIAL NOTICE.**

**THE STATE FIRE MARSHAL,  
TEMPORARILY LOCATED IN  
THE HAMM BUILDING, DURING  
THE SESSION OF THE  
LEGISLATURE IS AGAIN BACK  
IN THE OLD QUARTERS IN  
THE NEW STATE CAPITOL,  
ROOMS 329, 330 AND 331.**

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AUG 15 1921

# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 28

Saint Paul

July 15, 1921

## WHAT MINNEAPOLIS CLEAN-UP COMMITTEE ACCOMPLISHED

**T**HIS committee instead of confining its clean-up activities to one week conducted the campaign during the entire month of April, with the month of March set aside for preliminary work and the month of May for follow-up work.

In addition to the work done in connection with the general cleanup work such as ridding the city of garbage, ashes, tin cans, general rubbish and other debris, the committee conducted separate campaigns against rats, flies, mosquitoes, etc. In fact, the purpose of their campaign was not only to rid the city of dirt but fight everything that was a menace to the beauty of the city and an economic loss to its citizens.

In order to facilitate the work of the committee, headquarters were opened in the loop district of Minneapolis which served as a demonstration store for the work. Free motion pictures were shown and stereoptican lectures delivered at this downtown store, each noon with splendid window decorations and exhibits of clean-up material on the inside. These exhibits attracted a great many people and it was estimated that 75,000 people were inside the store during the period that it was open. Rat poison was mixed in the store and given away in small quantities to householders free of charge. A meeting was called of business men who were troubled with rats in their business establishments, and they were shown how to mix poison and distribute it in their establishments.

In order to gain further interest in the work, sixty thousand clean-up folders were distributed to all of the school children in Minneapolis, with instructions that they bring them home for signature of their parents.

The Y. M. C. A. Boys' Clubs took an active interest in cleaning up vacant lots and in conducting a tin can campaign. Probably 50,000 tins were collected and removed by the Clean-up Committee.

A fly-swatting contest was con-

ducted in all of the schools of the city in order to combat the early fly. The Webster school of Minneapolis won the first prize by bringing into committee headquarters 4,000 dead flies before May 1. Other schools brought in a proportional number, and most effective work was done in this swat the fly campaign.

The Minnesota Conservation and Fire Prevention Association was of considerable assistance to the Minneapolis Clean-up Committee in making an inspection of the loop district, not only reporting fire hazards but sending in to the Clean-up Committee headquarters one hundred and fifty reports of bad conditions on the outside of buildings that needed cleaning up. In addition to this inspection, the Women's Community Council put 2,500 block workers in the field to make an inspection of residential districts, and have reported to clean-up headquarters the names and addresses of all people who have not complied with the city ordinances and state laws and cleaned their property. These reports are being followed up by the Minneapolis Public Health Department, and where people do not comply with the law, an inspector from the Health Department is sent and legal procedure will be entered into for those delinquents who have not cleaned up their property by the time the Health Department inspector arrives.

The Minneapolis newspapers gave splendid co-operation to the cleanup work, as also did a number of the outlying weeklies and private newspapers of different types.

A motion picture trailer was shown in forty-seven different theaters in Minneapolis dealing with this subject. It is estimated that over half a million people saw the committee's motion picture.

The Minneapolis School of Art drew a number of splendid clean-up posters, which were placed on display in a number of different places in Minneapolis.

A standard lightning rod, properly installed may save a season's crop and a thousand Armenians from starving.

## LIGHTNING ROD LAW.

The Province of Ontario has passed a bill which will require all agencies handling lightning rods in that province to take out a license to be issued by the fire marshal, subject to regulation, which may be promulgated by the Lieutenant-General, prescribing the methods of installation and materials which may be used for protecting buildings and their contents against damage by lightning.

The license fee is \$50 annually and 80 cents on every \$100 received from the sale of lightning rods and equipment from business transacted in Ontario. No agent holding a license is permitted to sell any except the classes or brands of rods and equipment sold by the holder of the original license. In other words an agent is prevented from acting as the sales agent of any except companies who may also be licensed to transact business.

## RANGERS AFTER SLASHINGS.

The Minnesota state fire rangers have again issued notice to all loggers that they must dispose of the pine and balsam slashings left in the trail of their timber cutting operations this winter. Attention is drawn by them to the fact that the length of the stump that is left by the woodmen, as well as the size of all tops and limbs, are fixed by the law of the state. The law provides that all parts of the felled tree that are not removed for commercial purposes, must be destroyed before the snows melt in the spring. It has been contended by rangers that most of the disastrous forest fires of the past have been started in wind-dried piles and slashings left by loggers during the previous winter.

## TO THE BUSINESS MAN.

Good citizenship is good business. The success of every business enterprise, wholesale, retail or otherwise, depends upon the health, happiness and prosperity of its customers and employees. This fact alone commands the support of every business man in making this spring Clean Up Campaign.

**State of Minnesota**  
**FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
 Office 330, State Capitol  
 Saint Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

SAINT PAUL, JULY 15, 1921

The Bulletin will be mailed to any address regularly upon request

**E**VERY mail is bringing in reports of loss of life or injury and property damage from cities and towns throughout the state where the Fourth of July was observed in the old glorious way.

Minneapolis heads the list for Minnesota, where the sale of fireworks, restricted for several years, was this year permitted. Two deaths, and several injuries, and a property damage estimated at over a half million dollars charged to the sale and handling of fireworks and firearms is the result so far. Similar reports are current from other large cities of the United States traceable directly to the same cause.

That such fatalities and accidents can be prevented by restricting the sale of fireworks and by the observance of the Fourth in a safe and sane manner is illustrated in the case of the city of St. Paul, where only three persons were injured, no deaths occurred and no property damage to speak of.

Owatonna was one of the first smaller towns in Minnesota to report a fire charged to fireworks, where a stand with a large supply of fireworks was located at the foot of a stairway leading to the second floor of one of the downtown buildings with dwelling rooms above. The fireworks were set off accidentally and shot up the stairway, setting fire to the furnishings in every room in the apartment. Chemicals failed to check the fire and it was necessary to lay a hose line and flood the place in order to prevent the fire spreading to the rest of the block.

Fifteen or twenty years ago we Americans had an idea that the birth of the nation could not be properly celebrated unless every conceivable type of explosives or firearms were permitted to be used, with the result that the casualties ran into the hundreds and thousands were maimed or crippled for life, and property damage ran into the hundreds of thousands.

Through accident prevention propaganda and the safe and sane idea of the celebration of the Fourth it has been shown that it is not necessary to kill and maim in order to prove our patriotism.

This is a matter that could and should be regulated entirely by local city or village councils, but it appears that an act of the legislature prohibiting the manufacture, sale or use of fireworks will be necessary in order to protect the lives of the men, women and children of our state.

**LOSS PEAK IS REACHED IN 1920.**

The Actuarial Bureau of the National Board of Fire Underwriters received 705,583 loss reports during 1920 for a total of approximately 345,000 claims. The insurance loss in 1920 was \$404,377,583. This represents losses to insured property. If one-fourth is added, as an estimate of the loss to uninsured property, the 1920 fire loss amounts to the astounding total of half a billion dollars. The actual losses paid out by the insurance companies in 1920 greatly exceed the estimate made by the New York Journal of Commerce, which estimates in previous years had been reasonably close to the actual total as later shown by the Actuarial Bureau reports. A fire loss of half a billion dollars in a single year is a per capita loss of \$4.73. It should also be borne in mind that this does not include the expense of maintaining fire departments, water supplies for fire protection purposes and the expenditures of many organizations for fire prevention.

**STRIKE-ON-BOX MATCHES.**

The Executive Committee of the National Fire Protection Association is considering the advisability of a campaign to secure the adoption and exclusive use of the strike-on-box match. While material improvements have been made in the strike-anywhere match so far as a fire hazard is concerned, it is claimed that the strike-on-box match is preferable for the protection of small children, as safety matches picked up on the floor cannot be ignited without the use of the box. The general public, however, apparently prefers the strike-anywhere match and there is some comment as to the advisability of seeking to outlaw this type in view of the co-operation of the match manufacturers in reducing their fire hazards and having their matches labeled by the Underwriters' Laboratories.

**A COURT FOR FOREST FIRES.**

Creation of an auxiliary court to try forest fire damage cases, resulting mainly from the Moose Lake disaster and brought by St. Louis, Carlton, Itasca and Aitkin county residents against railroads, is provided for in a law passed by the late legislature. From one to ten auxiliary judges are provided for, the first to be appointed at once by Governor J. A. A. Preus and additional judges as recommended by sitting judges in the counties involved, and to be elected at the next election. Each judge is to receive \$6,000 a year.

**STANDARDIZATION SOUGHT.**

Herbert Hoover, secretary of the United States Department of Commerce, has initiated a movement which, if carried forward successfully, will be of great value to municipalities and states in framing building codes. Mr. Hoover has caused the formation of a committee to codify and standardize the building laws of the United States. The object of this committee will be to bring about standards concerning stress requirements and other factors of construction, so that the complaint of conflicting requirements in codes may be removed. Ira H. Woolson, chief construction engineer of the National Board of Fire Underwriters, is to be chairman of the committee. The appointment of Mr. Woolson on this committee insures that the code to be prepared by the committee will give due consideration to requirements of fire safety.

**FISH BOWL CAUSES FIRE.**

A fire from an unusual cause was reported from Duluth recently. The circumstances served to illustrate the intense heat generated by the sun's rays even in mid-winter when focused through glass. A chair at the home of Fred W. Buck, Jr., a local real estate operator, was set on fire by the rays of the sun in passing through the top of a glass globe containing gold fish. The fire was detected shortly after it had started so that no damage was done beyond scorching the chair.

**ANNUAL REPORT OF FIRE CHIEF.**

Fire Chief Joseph Randall estimates that the fire loss in Duluth during 1920 was the lowest since 1905, when it aggregated \$160,807. He is of the opinion that his annual report now in course of compilation will show that the fire losses of last year did not exceed the 1915 total.

**52 YEARS A FIREMAN, CLAIMS WORLD RECORD.**

With the rounding out of 52 years of continuous service on June 1, friends of Fire Chief George A. Wallace claimed he is the oldest fireman in the world in point of service. Chief Wallace has been at the head of Cleveland's fire department for more than 20 years. Never in that long career has he had a demerit mark. Wallace, 73 years old, joined the department in 1869.

**RAIN STOPS FOREST FIRES.**

Duluth, Minn., July 3.—Forest fires in the State and Superior National forests in Northern Minnesota are virtually under control.

In sections where no rain fell rangers gradually increased their crews of guards to such proportions that they were able to cope with the fires in several remote sections.

No estimate has been made of the loss.

## LIGHTNING STUNS TRIO, KILLS DOG, FIRES HOME

Rochester, Minn., July 7.—When lightning struck the Pugh residence, at Pugh's Point, near here, early today, George and Wright Toogood, who had sought refuge from the storm, and a boy sleeping on the porch, were stunned and a dog under the porch killed. The house was set afire, but the men succeeded in putting the flames out. The Toogoods were fishing when the storm came up and had just stepped onto the porch when the bolt struck. The trio suffered no ill effects.

## GIRL'S DEATH FOLLOWS PLAY WITH JULY FOURTH SPARKLER

The second death caused by Fourth of July accidents occurred when Julia May Passolt, 4-year-old daughter of Mr. and Mrs. Robert Passolt, 812 East Eighth street, Duluth, died at a Duluth hospital. Her death was caused from burns received when her clothing caught fire while she was lighting a "sparkler."

## PREVENTION EDUCATION LAWS PASS

Compulsory fire prevention education laws have been enacted this year by the following states: California, Rhode Island, West Virginia, Wisconsin and Ohio. New Jersey adopted such a law last year and has placed about 100,000 of "Safeguarding the Home Against Fire," the manual prepared by the National Board of Fire Underwriters for the United States Bureau of Education, in the schools of the state.

Compulsory fire prevention education has been the result chiefly of the efforts of the National Association of Credit Men, which has been active for many years in promoting fire safety. This association was one of the first national organizations to recognize the necessity of fire prevention on the part of all the people, if fire losses were to be reduced.

In only one state where the compulsory education measure passed this year, was it vetoed by the governor.

## AN OLD STORY.

J. F. O'Neil, 906 Westminster street, St. Paul, was burned on the left arm, when he lighted a match to see if the gasoline tank of a car at the Capitol garage, 50 East Twelfth street, was full. He was taken to the City hospital.

Slight damage was done to the car.

## SUN EXPLODES FIREWORKS.

Staples, Minn., June 27.—Sun rays, shining through a plate glass window, set off a display of fireworks in the drug store of P. L. Adams here. Firecrackers exploded and one heavy rocket blew a cap pistol through the glass.

Prompt arrival of the fire department prevented much damage.

## CHILD MAY DIE OF BURNS.

Pearl Garret, 4½-year-old daughter of Mr. and Mrs. Wolff Garret, 1911 Fifteenth avenue south, Minneapolis, is in a serious condition in the Minneapolis General hospital from burns suffered when matches with which she was playing ignited her clothing. She ran screaming into the house with her clothes ablaze. Her mother rolled the child in a blanket, extinguishing the flames.

The girl's entire body was scorched, and only slight hope for her recovery is held out by the attending physicians. Mrs. Garret was slightly burned.

## "HAVE A HEART," MR. SMOKER "Matches-Smoking" Losses During the Five Years 1915-1919

### Inclusive.

Alabama .....	\$ 993,366
Arizona .....	337,517
Arkansas .....	853,512
California .....	3,060,160
Colorado .....	435,668
Connecticut .....	1,272,262
Delaware .....	279,800
Dist. of Columbia..	414,244
Florida .....	585,966
Georgia .....	1,594,798
Idaho .....	387,311
Illinois .....	5,328,153
Indiana .....	1,926,200
Iowa .....	1,287,555
Kansas .....	757,816
Kentucky .....	950,729
Louisiana .....	1,192,357
Maine .....	868,707
Maryland .....	874,503
Massachusetts .....	6,757,958
Michigan .....	1,976,381
Minnesota .....	<b>1,141,735</b>
Mississippi .....	728,061
Missouri .....	1,817,717
Montana .....	441,828
Nebraska .....	856,502
Nevada .....	80,684
New Hampshire .....	442,729
New Jersey .....	3,036,731
New Mexico .....	139,953
New York .....	13,207,231
North Carolina .....	776,566
North Dakota .....	521,865
Ohio .....	2,553,484
Oklahoma .....	972,671
Oregon .....	476,080
Pennsylvania .....	4,660,596
Rhode Island .....	975,294
South Carolina .....	482,792
South Dakota .....	299,219
Tennessee .....	971,026
Texas .....	1,496,743
Utah .....	219,030
Vermont .....	207,980
Virginia .....	941,790
Washington .....	882,700
West Virginia .....	424,678
Wisconsin .....	1,058,189
Wyoming .....	109,333
	\$73,088,176
Plus 25% for unreported losses and those upon uninsured property...	18,368,587
Total .....	\$191,842,935

## WHAT EVERYBODY SHOULD KNOW.

That fire is a treacherous servant and a most cruel master.

That fire hazards exist on every hand.

That the only way to get cheaper fire insurance is to stop burning property.

That a fire occurs somewhere in this country every time your clock registers a minute. That five schoolhouses and colleges burn every day in the United States.

That working along fire prevention lines can do but little without community cooperation. Are you doing your share in the conservation of life and property in your community?

Do you realize that the fire losses in the country represent a fire tax each year of approximately three dollars per capita for every man, woman and child?

At an average of 5 hours each day during 200 days in each year, twenty-five million children are in the schools of the United States. The attendance is compulsory. No fundamental educational problem is greater than the safety of children. Statistics available show there are five schools that burn every day.

Fire is one of the worst perils that confronts any community and good citizenship demands that each individual do his part to prevent waste by fire. Can we have your assistance?

An insurance company is merely a clearing house and collects money from the many for distribution to the few who suffer loss by fire. If the destruction of property can be reduced, the fire premiums should be proportionately reduced which will result in a large saving to the citizens of the state.—Exchange.

## AIDING THE FIREMEN.

In many of the cities the boys and girls of the scout organizations have been able to render great aid to fire departments in preventing fires. Organize a fire prevention department under the leadership of the city fire chief, and make every man and woman and child a volunteer fireman.

Fire and panic go hand in hand and close behind lurks death, unless your workers know what to do if emergencies arise, but you have to teach them. That is up to the brave fire chief of your town. "We are never too old to learn." Have uniformed and trained firemen in places of public gatherings.

Remember, "Fire Prevention" is the motto. Fire protection comes next. There is as much credit in preventing fires as there is in extinguishing them. Remember the defenseless women and children who are dependent on the men to protect them in their home and in the school. Prevent fires if it is in your power, but never wait until fire is beyond your control. Call for the fire department.

# FIRE MARSHAL BULLETIN

## TRAGIC HAPPENING.

### Mother Passed Away After Terrible Burning—Home in Ashes.

About five o'clock Wednesday afternoon we heard the fire alarm sounding and following the crowd we soon discovered that the fire was in the south end of town on the Jefferson Highway. We hurried on and reached the Wm. Claflin home shortly after the Chemical Engine, which was playing on a hopeless conflagration, the kitchen of the home being a mass of seething fire which in ten minutes had spread through the entire home which burned to the ground.

Mrs. Claflin, desiring to hurry a fire in the kitchen stove, proceeded as she had hundreds of times in her life by pouring oil from a can into the stove. The contents of the can ignited and before Mrs. Claflin succeeded in getting out thru the door both the stove and the can exploded, covering her with flames. She rushed out of doors and rolled on the grass, but the flames crept through her clothing. Her screams attracted the neighbors and at the same time a young man and his wife, tourists, who were passing through on the Highway, went to her rescue. The young man fought heroically and by the time the flames were extinguished his hands and arms were badly burned. Chas. Schultz carried the suffering woman to his summer cottage nearby and friends hurried for physicians. Dr. Sweelman was out of town and Dr. Trimbo was hurried to relieve Mrs. Claflin. He found her so badly burned that from the first he gave little hope for her recovery. Dr. Chas. Pierce of Wadena was called in consultation, but there was nothing that human skill could do, but to relieve her pain until the end came at 3 A. M. yesterday morning.

She leaves to mourn her death a husband and six children, the youngest, Freddie, age nine, and other relatives.—Menahga Journal.

## BUILD FOR SAFETY.

Those who want to build cheaply and without regard to durability or safety can always find some reason why existing building ordinances should not be enforced or why improved ordinances should not be enacted. Just now fire officials in the United States are being asked to overlook violations of existing ordinances relating to building construction in order to encourage builders. In some cities it would seem that all safeguards for dwelling house construction are to be set aside on the grounds that houses are needed at a low price and without delay to prevent higher rents.

For many years the great fire losses of America have been excused, and justly so, upon the ground that there was immediate need for building construction which could be satisfied only by rush "methods." Everything has been sacrificed to speed. It would seem, however, that the

time has now come when America can well afford to take a little more time and do things upon a more stable and durable basis. During 1918 new dwelling house construction scarcely exceeded in value the fire loss of dwellings already standing. Construction of frame houses in violation of fire ordinances cannot be justified upon grounds of safety or durability. And it is certainly doubtful whether this practice can be justified today as a measure of speed. There has developed in this country within recent years construction methods and materials which are adequate to produce millions of homes of fire resistive construction in a very short time. There are ample resources in this country to permit building at reasonable cost for permanence, safety and beauty.

## BETTER LIGHTNING RODS.

In days gone by anything that was called a "lightning rod" was taken to be a lightning rod; and today that is still true to a certain extent, even though practically all of the objectionable sales features have been eliminated from the industry. The subject of protection against loss by lightning is of particular importance to all fire prevention authorities because it is an admitted fact that a properly constructed and installed system of lightning rods functions in a manner as nearly perfect as any fire prevention device can function—in a

manner as nearly perfect as man can devise. Universal recognition by fire prevention authorities has tended greatly to increase the demand for efficient systems of lightning rods. Years of investigation by the United States Government and Agricultural Department, Scientists, Insurance Companies, etc., has developed the fact that properly installed lightning rods are an almost absolute protection; that fact that such recognition is accorded to lightning rods today is proof enough that that which possesses real merit will survive, whereas sooner or later the inferior systems (and there are such in use today) will eliminate themselves by failure to afford proper protection.—Mutual Insurance.

Nearly 80,000 cigarettes and 500,000 matches are consumed each minute, day and night, by the American public. Never neglect precautions. Put out your matches and your smokes before throwing them away.

Hunters, fishermen and woodworkers of all kinds smoke in the forests, while the automobilist tosses a bit of fire from the cars and speed thoughtlessly on, unaware that they have left an incipient conflagration behind them. A single glowing cigarette stub may cost the government thousands of dollars for fire fighting, to say nothing of the value of the timber destroyed, the desolation of scenic beauty and the harm done to water-flows.

## FIRE LOSSES, MONTH OF MAY, 1921.

	No. of Fires	Value of Bldgs. and Contents	Damage to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	27	\$1,167,900	\$40,020	\$626,260
Minneapolis .....	35	818,700	42,925	578,915
Duluth .....	21	410,912	72,672	306,425
Outside three cities.....	119	756,750	273,174	368,416
Total .....	202	\$3,154,262	\$428,791	\$1,880,016

## MAY, 1920.

	No. of Fires	Value of Bldgs. and Contents	Damage to Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	29	\$966,825	\$21,375	\$692,487
Minneapolis .....	60	1,942,025	56,139	1,025,075
Duluth .....	17	672,200	23,425	592,950
Outside three cities.....	101	493,127	136,390	224,085
Total .....	207	\$4,074,177	\$237,329	\$2,535,597

## TOTAL LOSSES FOR THE MONTH OF JUNE, 1921.

	No. of Fires	Value on Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	31	\$406,725	\$98,885	\$125,750
Minneapolis .....	54	3,488,350	213,620	2,585,850
Duluth .....	7	345,700	273,580	364,380
Outside three cities.....	96	562,321	178,558	420,142
Total .....	188	\$4,803,096	\$764,643	\$3,496,122

## JUNE, 1920.

	No. of Fires	Value on Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	26	\$2,633,150	\$24,320	\$1,466,300
Minneapolis .....	31	6,352,100	102,720	5,508,850
Duluth .....	9	58,990	7,306	28,900
Outside three cities.....	55	1,043,510	459,011	553,705
Total .....	121	\$10,087,750	\$593,357	\$7,557,755

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STATE OF MINNESOTA

# FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol.

No. 29

Saint Paul

August 15, 1921

## NATIONAL FIRE PREVENTION DAY

OCTOBER 9, 1921

### FIFTIETH ANNIVERSARY OF THE GREAT CHICAGO CONFLAGRATION

In 1920 the fire loss of the nation was over \$5,000,000,000.00. This staggering property loss exceeded the total production of gold of the United States and all of its possessions for the past three years. Think of it! A daily property loss of approximately \$1,370,000.00.

A fire loss is a loss no matter how it is figured; no matter how much insurance is carried. The partial relief that insurance gives adds but another item to our tax burden, but what is destroyed is gone forever. When the home burns, which may represent the savings of a lifetime, possibly priceless possessions are destroyed. When factory or place of business burns men are thrown out of employment. The plant is forced to suspend operation while it is being rebuilt, during which time the business that it has taken years to build up is taken care of by a competitor.

We have a greater loss, one that cannot be figured in dollars and cents, for fire took a toll of over 15,000 lives last year, and the horrible thing about this awful waste is that carelessness is the cause of most fires.

Minnesota has contributed her share to the national ash heap each year. It is about time that we awake to our responsibility in the matter of preventing this needless waste and that we set about to stop it.

Fire prevention means a thoughtful study of the numerous causes of fire and persistent safeguarding against, and the removal of the causes.

Now is the time for action; now is the time to organize a campaign against this evil. October 9 which will be observed throughout the nation as Fire Prevention Day will soon be here and the campaign this year should be made the greatest in history.

City and village officials are urged to begin preparations at once for the observance of Fire Prevention Day. Civic and social organizations should get back of this campaign and then every man, woman and child in Minnesota should participate in it.

Let's rid the home, town and state of fire hazards.

# FIRE MARSHAL BULLETIN

## State of Minnesota FIRE MARSHAL BULLETIN

**George H. Nettleton, Fire Marshal**  
Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire  
Prevention and Fire Protection

SAINT PAUL, AUGUST 15, 1921

The Bulletin will be mailed to any address  
regularly upon request

### FOREST FIRES AGAIN ACTIVE.

Forest fires in northern Minnesota burned over an area of 38,243 acres, causing damages estimated at more than \$50,000, during March and July 1 last, according to a report just completed by the state forester.

The losses were apportioned as follows: Damage to mature timber, \$12,416; damage to young timber, \$25,000, and damage to improvements, including hay, fences, buildings and wood products, \$13,253.

The services of 1,573 fire fighters were required to combat this forest menace. Of this number 387 men were paid \$718 by the state, while 1,186 fire fighters were furnished by private interests, including railroads, logging companies and other interests operating in that section of the state. These fire fighters furnished by private corporations were paid \$3,072 by their respective employers.

The number of fires reported during that period is given as 278, of which 48 are attributed to being set by railroads, 49 to brush burning, 11 to burning meadows, 71 of unknown origin, 13 to autoists and campers, 2 to road crews, 1 to lightning, and 2 were reported as being set maliciously. The cause of 69 fires has not been recorded by the various northwest rangers, Mr. Cox reported.

There are 717 organized townships, of which number 204 have voluntarily voted to tax themselves with which to raise funds to augment the state's appropriation for forest fire fighting. This is the only instance in the United States where settlers have acted in financially aiding the state in the matter of forest fire protection.

### USE OF WATER IN OIL FIRES

While water is recognized as the best general extinguishing agent for fire and is usually distributed indiscriminately over a fire-affected area with good results, it cannot under any circumstances be utilized in this manner where petroleum or its products in liquid form in open containers are involved in fire.

Under no circumstances should water be delivered from a hose stream into a tank of burning oil. Even the accidental discharge of a stream of water into a tank of oil when on fire may be disastrous, as the hazard may be increased by rupturing the tank and allowing the burning liquid to float therefrom. Or, it may displace the burning liquid and cause it to overflow thus spreading the fire. The water may be converted into steam by prolonged heat, and bring about the same result by its expansion, endangering adjacent property and the lives of the firemen, as when such an explosion occurs the blazing oil is usually scattered for a distance of several hundred feet. A false move with a forcible hose stream, for even a few seconds, might easily be the means of developing a conflagration.

If, therefore, water is the only extinguishing agent available, it is necessary for the municipal fire department to allow the fire to burn itself out and to confine its efforts to the protection of adjacent properties and to the confining of the fire to as small an area as possible, employing dykes made of sand bags, or loose earth, which is utilized in the formation of a dam to prevent the spread of the burning liquid.

### Value of Chemicals in Extinguishing Fires in Oil.

To extinguish oil fires, since water cannot be used for this purpose, other methods or extinguishment must be employed. Chemicals are the only means available for this purpose.

The quantity of chemicals needed to accomplish fire extinguishment in large oil tanks cannot, however, be carried on municipal fire apparatus or on a fire boat of the usual size. But the quantity which can be carried on such fire department apparatus is essential for smaller fires and as auxiliary protection for the larger ones. It is necessary, therefore, that these chemicals be a part of the private fire protection equipment of the individual plant, and that facilities other than hose streams be provided for the purpose of applying the chemicals to the fire, as these chemicals cannot be applied through hose streams in sufficient volume to accomplish fire extinguishment in large oil tanks.

With these chemicals a fire in even the largest oil tank can be extinguished within a few minutes, whereas, if the chemicals are not available, and the oil must be allowed to burn itself out, the fire will last for twenty-four hours or more, and during that time will act as a menace to adjacent property.

### THE MENACE OF THE PUBLIC GARAGE

A recent fire in a public garage which were stored some fifty car which was caused by the back-fir of the motor of one of these car causing a pool of gasoline on the floor to ignite, again calls attention to the hazard and the class of structures that are in many instances allowed to be used for the public storing of automobiles.

The enormous strides that the motor-vehicle industry has taken in the past few years and the immense increase in the number and variety of uses of the automobile has brought with it the hazard arising from the housing of these vehicles. All manner of structures have been commandeered as shelters by the owners and naturally many have turned to the public garage as a way out of difficulty. This in turn has created an immense demand for housing of this character and visions of great profit have induced individuals not properly equipped and with poor facilities to open garages for the public housing of motor vehicles.

The consequence has naturally been that in many instances little or no attention has been given to the Fire Prevention precautions both as regards the class of building in which the garage is placed and the precautions observed in the upkeep of the establishment. Wooden structures with oil-soaked floors have in many instances been used as garages, requiring only the spark from an exhaust pipe to start a blaze that would quickly destroy the building and probably take with it one or two others in its vicinity for good measure. Within such poorly suited structures conditions to match are sure to be found.

Men can be seen working on grease and gasoline soaked floors with engines of cars running and any minute the possibility of a spark or backfire igniting the gasoline. Instances are common where workmen have been found with lighted cigars or cigarettes in their mouth while working amid these dangerous surroundings.

With conditions such as these it is not hard to understand why fires in garages are becoming more and more frequent. It is time the authorities of cities and towns where such conditions exist awake to the dangers which they entail. The fire chief can do much to bring this matter to a head and stir the authorities to action, and the chief and department are after all the ones most concerned in this matter of reducing the hazard of garage fires.—Fire & Water Engineering.

Oily rags and mops will not permit a dark closet to remain dark for long. They are strong for "more light," and what's more, they get it. Of course the premises may never look the same again, but another demonstration has been made.

**"FIREMEN'S PICNIC A SUCCESS"**

A firemen's picnic with all fire departments in Becker County participating was the occasion for one of the largest gatherings ever held near Audobon, August 14, last. Nearly 3,000 persons were in attendance.

Fire departments from Lake Park, Audobon, Callaway, Detroit, and Frazee took part in the exercises, and the day was given over to department exhibitions, boys' and girls' races, a baseball game, community singing, and a program of speeches. An address was made by Mr. George H.

Nettleton, State Fire Marshal.

Free coffee was served and in its making over forty pounds of coffee were used. Nearly 3,000 cups of the beverage was dispensed among the thirsty crowd. Valuable prizes were given the winners in the sport contests.

One of the features of the day was a program of community singing with special firemen songs written for the occasion. Two of the numbers, the work of local talent, scored quite a hit and for the benefit of similar gatherings they are herewith reproduced.

**TO TUNE OF GLORY, GLORY HALLELUJAH**

We have seen some speedy horses and some cars with lots of pep,  
We have seen some railroad flyers and some aeroplanes that step,  
We have heard of comets, shooting stars, but when it comes to rep,  
The Firemen win the bet.

Chorus—

How'd you like to be a fireman?  
How'd you like to be a fireman?  
How'd you like to be a fireman?  
And never get a dog-gone cent.

When the fireman's on duty you can sleep for all is well.  
You need not fear the whistle nor the clanging fire bell.  
If the fireman don't reach heaven, then we'll follow him to—well  
We'll stick with them for good .

Chorus—

How'd you like to be a fireman?  
How'd you like to be a fireman?  
How'd you like to be a fireman?  
And never get a dog-gone cent.

**TO TUNE OF THE LONG LONG TRAIL**

When the old northwind is blowing upon a cold winter's night,  
And the fire whistle's going like an awful fright,  
And you jump into your britches and swear until all is blue.  
That's the time you wish the fireman was some one else—not you.

**HOT TIME IN THE OLD TOWN**

When you hear the fire bell ding, ding, ding,  
The Firemen cuss 'till it makes the welkin ring,  
They have to run while loudly we all sing,  
I'm glad I am not a fireman tonight.  
But when the fire has burned some fellow out,  
The firemen cuss when loudly we all shout,  
"If we'd been there we'd had the fire out,"  
And there's a hot time in our town that night.

**AMERICA**

My country 'tis of thee,  
Sweet land of liberty,  
Of thee I sing;  
Land where my fathers died,  
Land of the Pilgrim's pride,  
From ev'ry mountain side  
Let Freedom ring.

telephone line from the rural line to the picnic grounds was installed. Fortunately, it wasn't needed for fire purposes. Automobiles owned by firemen were parked by themselves at a point most accessible to the main highway in case of emergency.

The firemen's songs which were a feature of the Community Sing were written for the occasion by Ben and George Peoples of Detroit. They made quite a hit.

The Chairman of the gathering was Mr. O. A. Netland, a banker of Audobon, and also an active member of the Audobon Fire Department.

Among the speakers were: Mr. R. J. Lindberg, Mayor of Detroit, and Mr. Hans Grafsland, Mayor of Lake Park.

**CORRUGATED IRON ISN'T FIRE-PROOF.**

The idea that corrugated iron construction has fireproof qualities is met with not uncommonly among outsiders and even among underwriters. It is a fallacy, however.

When a corrugated iron building takes fire, and often when it is only subjected to the heat from a fire in an adjoining or a near-by building, the iron buckles as it gets hot and frequently the force of this action is sufficient to tear the nails out of the supporting timber work, giving ingress to sparks and flames. With heat enough from the outside, actual fire within is often not needed to make a wreck of the building.

**TWO FOUR-YEAR-OLD LADS BURNED TO DEATH.**

Entrapped in a burning barn on the property of Axel Ringdore, Two Harbors, Carl Ringdore, age 4, his son, and Donald Freeberg, age 4, son of Mr. and Mrs. Arthur Freeberg, were burned to death.

The two lads, with two other companions, both older boys, climbed to the loft of the barn to play. One of the boys is said to have had a handful of matches. In the course of their play the matches were lit and the hay stored in the loft ignited.

Before the younger boys were able to clamber down the ladder to the ground floor of the barn, the building was a mass of flames. The older boys, alert to their danger, left their companions surrounded with flames and escaped from the barn, closing the heavy door after them.

Fed by a ton of hay and other combustible material stored in the barn, the fire had destroyed the building before firemen were able to extinguish the flames. The charred bodies of the two fire victims were found near the entrance to the building.

It is believed that the boys had managed to descend the ladder to the ground floor but were unable to open the heavy door.

Statistics show that on an average of five schoolhouses are burned in the United States every day during the school year. Is it any wonder fire preventionists insist on fire drills according to law?

The picnic was held in Hans Skogen's grove near Audobon. The day was ideal and the occasion was thoroughly enjoyed by everyone present. Picnic lunches were a feature.

A few firemen in the towns participating remained at home to be on

the job in case of fire but the committee on arrangement seemed to be made up of "Safety First" men who didn't propose to take any chances and have a fire occur in any of the towns without being notified as promptly as possible and so a special

# FIRE MARSHAL BULLETIN

## FOREST FIRE SUFFERERS WIN VERDICT.

A sweeping victory for forest fire sufferers in Cloquet and its vicinity whose homes were destroyed in a fire that swept that region in October, 1918, was won when the Minnesota supreme court held the United States railroad administration liable for the fire.

The supreme court upheld a decision of the St. Louis county district court in the case of Phillip Hall against James C. Davis as agent for the President under the transportation act. The administration was found responsible for the fire that caused the loss of Hall's property. In an order signed by Judge W. A. Cant, the plaintiff was entitled to \$7,400 damages. Hall made application for assessment of damages following determination of the test suit.

### Duluth Decision Confirmed.

This action of the upper court confirms the decision of the five district judges who heard trial of the consolidated Cloquet fire case which began in May, 1920, ending in September. In this case 278 plaintiffs were named, one of whom was Hall. The judges handed down a decision favoring the plaintiffs. The Hall case was taken to the supreme court for a definite test of liability for the Cloquet fire.

The property loss caused by the fire in the Cloquet district is estimated at \$20,000,000. Two thousand persons living in the area were made homeless, 1,200 of whom were residents of the city of Cloquet.

### Settlements Expected.

With the cause for the Cloquet fire definitely placed upon the railroad administration, it is expected that the settlement for damages in the territory will be made in a short time. Attorneys for the plaintiffs have placed confidence in early settlement on advice from Washington that the railroad administration would begin settlement of the fire cases if the supreme court upheld the decision of the district judges.

### GIRLS FIGHT FARM BLAZE.

ST. PAUL, Aug. 10.—Fifty-three St. Paul Girl Scouts, camping at Square lake, near Stillwater, since Monday morning, in charge of Miss Zilpha Sharpe, local director, left their snug tents early today, and, running through a thunderstorm, formed a bucket brigade and fought a barn fire caused by lightning, on the farm of Jonas Anderson.

Before the fire was extinguished seven calves were burned to death and 100 tons of hay were destroyed, with an estimated loss of \$6,000, covered by insurance. The farmer's home was saved.

The St. Paul girls' work as fire fighters was praised by those who saw it as a splendid demonstration of what the Scout drill work has done in making them competent to meet emergency.

## BUILDINGS CONDEMNED DURING THE MONTHS OF MAY, JUNE AND JULY.

### ST. PAUL

Anna V. Wright.....	941 Jackson St.....	Store
Dakota & G. N. Townsite Co.	390 E. 7th St.....	Store
Albert I. Shapira, Moses C.		
Shapira & Hamm Brew-		
ing Co. ....	194 E. 8th St.....	Sheds
Clinton P. Abbott.....	133 Iglehart .....	Shack
Theo. Hamm Brewing Co..	681 Minnehaha St.....	Shacks
Wilhelm Pittelkow .....	569 No. Dale St.....	Barn
John & Antonia Skarda....	6478 Victoria St.....	Shack
John & Antonia Skarda....	1029-31 W. 7th St.....	Frame Bldg.

### MINNEAPOLIS

Samuel Hunter .....	1312 14th Ave. & 5th St.....	Vacant Dwelling
Mary L. Cobb.....	608 So. 7th St.....	Barn
F. W. Blakeman.....	409 Plymouth Ave. No.....	Vacant Dwelling

### DULUTH

Caroline H. Packard and			
Mary H. Straus.....	621 E. 2nd St.....	Garage	
L. Fox .....	425½ E. 4th St.....	Barn	
Harry Podolosky .....	429½ E. 4th St.....	Dwelling	
John L. Dodge Estate.....	1122 E. 4th St.....	Barn	
John A. Henry.....	St. Cloud .....	Barn	
Frank Plackie .....	St. Cloud .....	Shack	
Florence M. Brown.....	St. Cloud .....	Barn	
Caroline Preiss .....	St. Cloud .....	Shed	
Wm. W. Smith.....	St. Cloud .....	Shed	
Katie Hengel .....	St. Cloud .....	Barn	
E. Bostrom .....	St. Cloud .....	Barn	
Augusta Abeln .....	St. Cloud .....	Chicken Coop	
Elizabeth Botz .....	Freeport .....	Barn	
Dina Wolking .....	Freeport .....	Barn	
George Hecker Estate.....	Barnum .....	Two Barns	
Flora S. Goodell.....	Barnum .....	Shed	
A. M. Filgen.....	Barnum .....	Barn	
H. Gerlach .....	Barnum .....	Ice House	
Tina Wibye .....	Winona .....	Barn	
J. T. Robb.....	Winona .....	Barn	
J. W. Johnson.....	Winona .....	Barn	
J. T. Robb.....	Winona .....	Dwelling & Shed	
Ellen L. Herron.....	Little Falls .....	Store	
G. A. Beske.....	Minnesota Lake .....	Ice House	
Millie Kramer .....	Minnesota Lake .....	Ice House	
Borchert Hardware Co.....	Mapleton .....	Frame Bldg.	

### TOTAL LOSSES FOR THE MONTH OF JULY, 1921.

	No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	33	\$1,534,200	\$107,125	\$1,351,900
Minneapolis .....	59	1,930,400	75,880	1,581,152
Duluth .....	6	150,800	14,160	117,850
Outside .....	115	761,832	411,443	435,757
Total .....	213	\$4,377,232	\$608,608	\$3,486,659

### JULY, 1920.

	No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	29	\$1,935,330	\$55,180	\$1,785,250
Minneapolis .....	50	631,500	98,315	397,750
Duluth .....	7	368,300	2,300	229,400
Outside .....	94	1,229,175	426,937	413,005
Total .....	180	\$4,164,305	\$582,732	\$2,825,405

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# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 30

Saint Paul

September 15, 1921

## Fire Prevention Day October 9, 1921

October 9th, 1921, is the fiftieth anniversary of the fire which in 1871 destroyed the city of Chicago.

Statistics for 1920 show a property loss by fire of \$500,000,000, with an estimated loss of life of 15,000 persons.

The observance of Fire Prevention Day should be a concerted universal effort to reduce this stupendous loss of life and property by fire. The aim of Fire Prevention Day is to bring to the people a realization of two fundamental facts; that the fire loss is everybody's loss and everybody's responsibility, and that the great majority of fires are preventable through the exercise of ordinary carefulness. All features of Fire Prevention Day observance should emphasize these two facts. It is because these fundamentals are not commonly realized that fire losses are so enormous, and it will be only when Fire Prevention Education brings a general realization of them that losses of life and property can be measurably reduced.

**Begin Now.** Plan on a large scale; there is no civic movement more important than Fire Prevention. As Fire Prevention Day, October ninth, falls on Sunday this year, the culmination of the Fire Prevention Campaign, which begins on October ninth, should be on Saturday, October fifteenth. Sunday, the ninth, should be devoted to Fire Prevention Day observance in the churches.

Every member of the community should be interested in Fire Prevention Day and take some part in its observance.

A General or Executive Committee should plan and direct all of the Fire Prevention Campaign activities, working through sub-committees headed by influential and properly qualified individuals.

**Publicity.** Secure the whole-hearted support of the newspapers for a campaign showing fire losses and fire hazards of homes, schools, stores and factories, pointing out conflagration areas in the city and suggesting the improvements needed. A Fire Prevention Supplement should be issued with the Sunday papers of October 9th.

**Meetings and Speakers.** Arrange for addresses on Fire Prevention at all club meetings during the campaign. Reports of these speeches will be an important part of newspaper publicity. The Committee on Meetings and Speakers may also be helpful in arranging talks and demonstrations in the schools.

**Retail Merchants'** activities should be concentrated on Fire Prevention window displays and advertising. Small stickers for parcels are useful in conveying the Fire Prevention message to the public.

**Factories and Wholesale Houses** should have regular Fire Marshals and Self-inspection Systems.

(Continued on page two)

State of Minnesota  
Executive Department  
St. Paul

### Proclamation

The figures for the total loss of property by fire in the United States, though they differ from year to year, are always staggering. The loss in 1920 exceeded a half billion dollars.

Minnesota's fire waste is entirely too great. We can ill afford to lose the homes, the timber, the food, clothing and other necessities of life which are destroyed each year.

Insurance does not pay for the loss. It merely distributes the burden. Eventually every person must help pay the cost.

The greater part of our fires could be prevented. If greater care were exercised, our annual fire loss could be reduced to a small fraction of what it is today.

For this reason, I, J. A. O. Preus, Governor of Minnesota, do hereby designate and set aside October 9th, 1921, as

### FIRE PREVENTION DAY

This day, the anniversary of the disastrous Chicago fire, falls this year on Sunday, but much can be done, through pulpit and press, to awaken interest in fire prevention. In schools, factories, and other places where people congregate, fire prevention day may be observed on the following day and steps should be taken to bring home to the public the responsibility of each individual in helping prevent fire.

In Witness whereof, I have hereunto set my hand and caused the Great Seal of the State to be affixed this ninth day of September, 1921.

J. A. O. PREUS,  
Governor.

MIKE HOLM,  
Secretary of State.

# FIRE MARSHAL BULLETIN

## State of Minnesota FIRE MARSHAL BULLETIN

**George H. Nettleton, Fire Marshal**  
Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

SAIN T PAUL, SEPT. 15, 1921

The Bulletin will be mailed to any address regularly upon request

### NOW IS THE TIME

About 65% of all fires that occur in our nation annually are dwelling house fires. More than 40% of these fires are strictly preventable and 12.4% of these originate from defective flues and another 7.3% from stoves, furnaces, boilers and their pipes.

Remember that these fires are strictly preventable; that their origin is due to carelessness, ignorance and neglect, because somebody failed in their responsibility by not inspecting and keeping in repair the heating plant, stove smoke flues or chimney. Free your own home from these hazards by making a careful inspection of all heating devices. Examine all metal smoke flues running between the heater and the chimney to see that they have not rusted through from corrosion and see that all joints are tight. If found defective they should be repaired or replaced at once. This will only take up a few minutes of your time now and possibly save you much hardship later on.

Have a reliable chimney sweep clean your chimneys before the cold weather sets in. Remember that by neglecting these things now you are inviting fire to visit the premises, and that you and your family may be routed out of bed in the middle of the night in sub-zero weather. Remember that homes are scarce.

Now is the time to give this your attention.

### WHY TAKE A CHANCE?

Why take a chance? Gasoline vapor is heavier than air, consequently it will float along on the ground and may carry thirty feet, or more, and under favorable conditions ignite. One gallon of gasoline has substantially power equal to 83 to 88% pounds of dynamite. Gasoline will give off 130 times its bulk in vapor, and when vaporized will convert 1,560 times its volume of air into an explosive mixture, which will ignite from a flame or spark. Five gallons of gasoline will generate 8,000 cubic feet of gas; or enough to fill a room 20 by 40 feet and ten feet high. When ignited it immediately expands to four thousand times that space. This would cause a most terrific explosion.

### Fire Prevention Day

(Continued from page 1)

If not already installed, these should be planned for after an investigation by every manager covering the fire hazards and fire protection facilities of his property.

**Ordinances.** A committee should study all ordinances and building codes relating to fire safety and recommend needed improvements.

**Schools.** The use of Home Inspection Blanks, addresses by firemen speakers, provision for regular Fire Prevention instruction throughout the year, and a survey, with proper publicity, of the safety to life features of school buildings, are the important activities of the School Committee. "Safeguarding the Home Against Fire" is an excellent textbook.

**Essays** by school children, with suitable prizes, and publication of winning essays in newspapers, are a valuable feature of the Fire Prevention Campaign.

**Advertisements** incorporating Fire Prevention material should be solicited from all regular advertisers. Banners or window cards in street cars are another good form of Fire Prevention advertising.

**Motion Picture Theatres** should co-

operate by scheduling "four minute speakers, showing Fire Prevention slides, printing program announcements, and when available, showing Fire Prevention films. A new film "The Danger That Never Sleeps," prepared by the National Board of Fire Underwriters, is available through exchanges in twenty of the larger cities of the United States.

**Clean Up** work is one of the most important features of any Fire Prevention Campaign. A clean property seldom burns. The "Clean Up" should be followed by inspection of every home, store and factory.

**Parade.** The committee should arrange for an extensive parade, including all possible organizations. School children and Fire Departments are usually important features of such parades, but the Fire Chief should see to it that the Department is not weakened during the parade.

**Permanent Results.** A committee composed of the general committee members and sub-committee chairmen should consider results of the campaign, and plan to make Fire Prevention permanent and continuous.

It is requested that a full account of the celebration, its activities and results, be forwarded immediately following October fifteenth, to George T. Nettleton, State Fire Marshal, State Capitol, St. Paul, Minn.

## Stop Burning Up Homes

The housing problem is one of the great issues of the day. All unnecessary construction was forbidden during the war, and now that the restrictions have been withdrawn the high prices of materials and labor and industrial troubles have tended to reduce the amount of building. In many industrial centers newcomers are unable to get houses to live in, rents have gone up, and the situation has become so serious that state and municipal commissions are seeking a solution.

Why not stop burning up the existing buildings, if there are not enough to go around and more can-

not be built under existing conditions. Thousands of homes are burned each month, most of them through carelessness. If housing is so important if homes are so hard to find, why not be careful with those that we have. Apply fire prevention methods. Be careful about matches, smoking, lighting and heating apparatus and gas line. Clear out the rubbish, inspect the flues, watch the shingle roofs. Conservation is the order of the day and if the shortage of dwellings will cause householders to be careful about the fire hazards of their homes one criminal cause of that shortage will be greatly reduced.

### JUST PLAIN "BUG."

NEWTON, Mass.—Whenever Frederick A. Price, the Brookline "fire queen," saw anything red he could not restrain from setting a house on fire. He admitted so when arraigned on three charges of arson. He pleaded guilty and was held for the grand jury.

Price admitted that after each fire he would write to the police his intention of renewing his incendiary activities in the near future.

These messages were always signed "The Fire Queen," and the police claim Price always kept his promise.

The authorities blame Price for setting more than 40 fires in the last year.

### GET THIS IN YOUR SYSTEM.

Get this in your system and keep it there: Insurance companies are not in the business for eleemosynary purposes. When they write policies they see to it that the rate is sufficient to enable them to pay a certain amount in losses, based on statistics they have been years, yes, generations, gathering, and still have something left to keep the wolf from the doors of their officers, solicitors, etc., and then put something aside in the shape of surplus and dividends. In fixing a rate the moral side of the risk is given almost as much consideration as the physical side. Untidy premises, for sure, must pay a higher insurance premium than tidy premises, and since untidiness is, to a certain extent, immorality, the point should be clear.



**T**HE observance of Oct. 9 as Fire Prevention Day began in the year 1911 and has spread until today it is practically a national event. Last year for example, it was designated by proclamations of governors of thirty-three different states, the mayors of many cities and a number of state fire marshals. Tens of thousands of school rooms held special programs; fire departments gave parades in which were exhibited floats, messages and warnings upon the subject of fire prevention; newspapers published fire prevention articles and cartoons; moving picture theatres flashed practical suggestions upon their screens; advertisements, posters and car cards were extensively used; circulars were distributed by the hundreds of thousands, and chambers of commerce, boards of trade, insurance men, Rotary and Kiwanis clubs and other factors in varying degree throughout the United States helped to build up the lesson of a day that has really become a great educational occasion.

The general character of Fire Prevention Day is three-fold:

First, that of arousing the public to a sense of the importance of the subject and of its own responsibility.

Second, that of instructing the public as to practical precautions to be observed.

Third, that of accomplishing definite physical results, such as cleaning up premises, promoting inspections, removing special hazards, etc.

There are many channels through which the public may be reached in order that the day may be properly observed and its prevention features brought home to the public generally. These include the newspapers, civic organizations, insurance companies, public officials, merchants and manufacturers and the schools. All those named are valuable aids and will gladly give the help required.

#### SHOULD BE KEPT APART.

Sparks and gasoline.  
Heat pipes and wood.  
Caps and dynamite.  
Electric wires and metal objects.  
Children and matches.  
Electric bulbs and combs or hairpins.  
Careless people and inflammable substances.  
Gas jets and lace curtains.  
Coal-oil lamps and shaky tables.  
Oily waste and cigarette stubs.  
Cold ashes and wooden containers.  
Rubbish piles and careless smokers.  
Celluloid combs and hot hair curlers.  
Overloaded wires and bad connections.  
Coins or metal connectors and safety plugs.

—Montana Fire Marshal's Report.

#### THE HAZARDS OF PRIVATE ELECTRIC PLANTS

**B**ECAUSE of prohibitive expense only a few nearby farmers can connect with city plants; others must depend on private plants for electric light, heat and power. These systems are of low voltage, and the dangerous theory is quite common that therefore they are free from life and fire dangers. Neither of these dangers depend solely on voltage. A strong, well man may survive a severe electric shock; a slight shock may be fatal to one with a weak heart. Standing on a dry floor or a rubber mat, it may be safe to touch a knife switch or a brass socket, standing on a wet floor or in a bath, this is dangerous.

In a building where there is nothing to burn, poor wiring may do no harm. Such is not the case in farm barns particularly. The dampness of the stock barn is destructive to wire insulation, and a short circuit may at any time ignite the gathered cobwebs. In the hayloft hay, straw, cobwebs and dust are usually in contact with wires, fixtures and unenclosed switches and fuse blocks. Under these conditions the slightest electric trouble may cause a disastrous fire. Conduit wiring is advisable in barns. All work should be done in strict conformity with the National Electric Code. This is the standard throughout the land, and the legal standard of this state.

Farmers can do no better than to purchase these plants, installed from some known, reputable dealer, under contract that all work comply with said code. A reputable dealer cannot afford to let either death or fire come back to plague his conscience, because of incompetent work. Shun the man who tells you that these plants are free from danger and that expert knowledge is not needed to install them. Mr. Farmers, your buildings house ever-increasing values. You are not prepared to fight fire. Prevention is your only protection.

#### THE PRICE YOU PAY.

The pitcher went to the well 999 times, only to be broken on the thousandth trip. You may fill your gasoline tank while the motor is running many, many times without an explosion; you may start fires with kerosene "a heap o' times" and escape being blown to kingdom come; you may toss many cigarette and cigar stubs into the wastebasket or through the window on the awning or roof without causing a blaze; you may leave the current on the iron while you answer the telephone or door bell without even scorching the ironing board, land knows how many times; you may pile your closets, attic and basement full of trash and rubbish for a long, long time without direful results; you may be careless with oily rags and mops and get by for many moons without mishap—but as sure as fate you will pay the price sometime, depending entirely on your luck.

#### HAZARD FROM STOVES AND RANGES.

The floor underneath and surrounding the stove or kitchen range should be protected with a metal plate extending to a distance of at least eighteen inches in front to protect the floor from live coals. Wooden partitions or other inflammable material near stoves or pipes should be covered with asbestos and with sheet metal guard. Leave an air space of at least two inches between the metal and the woodwork.

Examine grates and firepots carefully to see that no parts are cracked, broken or out of place.

Replace all cracked or broken mica windows in stoves.

Never place wood in an oven to dry nor combustible material on heating apparatus, flues or pipes.

Steam or hot-air should be used for heating factories, stores and warehouses; stoves are dangerous and should be eliminated.

If you smell smoke, investigate until you find the cause.

#### OPEN FIRES

Do not heap up the grate and then go away and leave the fire. All open fires should be screened.

#### OIL STOVES

Extreme care should be exercised with alcohol and oil stoves. They should be filled, cleaned and trimmed in the daylight and away from any open flame.

**DON'T POUR COAL OIL in the stove.**

**KEEP THE LAMPS CLEAN.**

Insurance Department

Raleigh, N. C.

#### A FIRE PREVENTION DAY PROGRAM FOR SCHOOLS

**B**ECAUSE October 9, 1920, falls on Saturday, the school observance of Fire Prevention Day will take place on Friday, October 8. Programs will, of course, be arranged according to the wishes of the teachers and the facilities of the schoolrooms.

1. A Talk by the Teacher.
2. Practical Advice, including Fire Alarm Instruction, by a Fireman.
- Three additional items, which are desirable if time will permit, are:
3. Girl's Essay on "Making Our Homes Safer."
4. Boy's Essay on "Making Our Town Safer."
5. "America."
6. A Fire Drill.

It is advised that parents be invited to attend, since a valuable purpose of the observance is that of arousing the interest of the older people.

# FIRE MARSHAL BULLETIN

## THE BASEMENT FIRE HAZARD.

### How Property Owners Can Reduce a Prolific Source of Danger.

Basement fires constitute a serious hazard which demands greater attention on the part of property owners. Most of them are due to waste paper, packing boxes, excelsior and rubbish which should not be allowed to accumulate. "Out of sight is out of mind," and many business men would be astounded if they realized the dangerous conditions they are permitting to exist in the portion of their premises usually most unguarded. Fires starting in basements frequently get such a start that they are a serious menace to the lives of those on the floors above. The remedy recommended by the fire prevention experts is better housekeeping in the basements, enforced by regular and frequent inspections by the owner or responsible employees.

The danger is greatest in the basements which are used only for storage. All sorts of rubbish accumulates, dries and becomes inflammable, and the hazard is increased by the frequent custom of keeping oils and other dangerous materials there. Many fires start from spontaneous combustion, from defective wiring or from the matches and stubs of careless smokers, and if excelsior, old boxes and waste paper are scattered about the blaze gets such a start that there is little chance of saving the property. The fire runs up elevator shafts and stairways, and in many cases serious loss of life has followed.

Owners of property should see that waste paper and packing material is taken care of and removed regularly, and that rubbish is not allowed to accumulate. They should make it their duty to see that this is done, and should also make certain that inflammables and explosives are properly safeguarded, that the wiring is standard, that smoking is not allowed, and that the general rules of good housekeeping are observed. By doing this they will protect life and property, keep insurance rates down, safeguard their neighbors and the community, and do their share in reducing the preventable fire waste of the country.

Now let's all lend our efforts to conserve the fire waste;  
Let there be no camouflaging from the attic to the base.  
Every spooky little corner where the fire germs abide,  
Will be thoroughly renovated, and all rubbish put outside.  
Let our fight be systematic; let us study up and know  
All the scientific methods to combat this subtle foe.  
Let's assume responsibility for our divided part,  
The best way to beat a fire. We must never let it start.  
By Charles McIlhargey, Fire Chief, Hibbing, Minn.

## SHAME ON SUCH!

Too much, says a writer on fire prevention, cannot be said against the common crime of leaving small children alone in their homes, sometimes locked in, while their parents are at the movies or elsewhere, but absent.

Words do not exist in any known language carrying a sufficient strength of condemnation of the unnatural mother or father who deliberately closes the door of the house with helpless children inside, left alone to face the dangers of a dwelling in which the hazards of fire are not properly safeguarded while the parents attend a place of amusement, visit their neighbors, or absent themselves for some other purpose.

A fire is breaking out every minute somewhere in America, and no one on earth has any knowledge when or where the next one will occur, and yet little ones, utterly unable to protect or save themselves, are locked inside with every avenue of escape cut off, while their parents are away, perhaps having a good time gadding about the neighborhood, or on shopping tours or other matters which take them away from the helpless little ones.

Shame on such! They are absolutely and entirely unworthy the sacred name and ties of mother or father.

If parents must go away from home on a visit or business of some nature, and no one is available to care for the children, then let the business go. Stay at home or take the children along. If the house must be locked, then first put the children outside. Lock them out instead of in, and give the neighbors a chance to perform the duties of care and safety which some parents seem unable and unfitted to discharge themselves.

**Do you know the telephone number or call of the nearest fire station? Learn it at once.**

**A tree will make a million matches, but a match will start a fire that will burn a million trees.**

**A little fire is quickly trodden out; which being suffered, rivers cannot quench.—Shakespeare.**

## DEPARTMENT TRAINING SCHOOL

A fire department training school of Indianapolis, Indiana, has been instituted by the board of public safety of that city. Each fireman will receive instruction at least once each month under the present plan. Tests are made in running and stopping fire trucks, raising ladders, climbing ladders, attaching hose to hydrants and pumbers to hydrant. Instruction is given in the most approved methods of fire fighting and life saving. In tests made for hook and ladder companies fast time was made by No. 2, which stopped its apparatus in 15 seconds, raised a 35-foot ladder in 40 seconds, and sent all its men over the top of the ladder in 29 seconds, completing the test in one minute and 24 seconds. The fastest time for pumper companies was made by No. 5 company, which laid 150 feet of hose in 37 seconds, returned the pumper to the hydrant in 7 seconds, connected it with the hydrant in 11 seconds, and had 100-pound pressure in 21 2-5 seconds, completing the test in one minute and 16 2-5 seconds.

## OUT DOOR FIRES.

Watch your out door fire. Already engine sparks, bonfires and flying brands are reaping their summer toll.

Weeds are being cut and burned; corners cleared out, and out door fires are being lighted by canners, campers, berry pickers, fishermen and land owners.

Keep weeds and grass cleared away from elevators, barns, etc.

Railways should do their part, and farmers should plow furrows between their right of way fences and the ripening grain.

Keep the children away from the out door fire.

Remember that a grass fire will out-run a horse.

Thresher crews also, will soon be in the fields.

## FIRE LOSSES FOR MONTH OF AUGUST, 1921.

No. of Fires	Value of Bldgs. & Contents	Loss on Bldgs. & Contents	Ins. on Bldgs. & Contents
St. Paul . . . . . 38	\$458,895	\$35,150	\$186,440
Minneapolis . . . . . 47	2,452,150	106,215	2,155,120
Duluth . . . . . 3	17,000	3,540	18,000
Outside 3 cities . . . . . 111	682,469	383,067	378,260
Total . . . . . 199	\$3,610,514	\$527,972	\$2,737,820

## AUGUST, 1920.

St. Paul . . . . . 34	\$2,015,150	\$21,410	\$1,662,250
Minneapolis . . . . . 50	2,053,200	251,340	1,473,850
Duluth . . . . . 10	1,527,050	24,600	1,328,140
Outside 3 cities . . . . . 69	1,551,515	261,922	339,739
Total . . . . . 163	\$7,146,915	\$559,272	\$4,803,979

STATE OF MINNESOTA

# FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 31

Saint Paul

October 15, 1921

## Observance of Fire Prevention Day in Minnesota This Year Surpasses All Previous Records

The 1921 campaign extended to every part of the state continuing over a period of several days. Many cities and towns heretofore paying little attention to the movement carried out excellent programs arranged by special Fire Prevention Day Committees co-operating with the local fire chief and the State Fire Marshal.

On account of Fire Prevention Day, October 9, falling on Sunday this year the campaign was appropriately opened from the pulpits. The general idea of the campaign was along educational lines. Every possible means was employed to call the attention of the public to the importance of taking part in the campaign by correcting defective conditions and by the removal of rubbish and inflammable material from the home and shop which, if permitted to exist, might result in fire.

The cause received the hearty support of the press which gave much valuable space to the Fire Prevention Day activities. Many public meetings were held and fire prevention pictures were shown in the movies but the campaign centered in the schools where special exercises were held in which teachers, firemen and four-nineteen men addressed the pupils. The Governor's Proclamation was read and instruction was given in turning on a fire alarm and fire drills were held. Meetings were held in factories and industrial plants and many of the merchants entered into the campaign by putting on attractive window displays.

In the larger cities special features were put on by the fire departments. In Duluth a fire truck was equipped with a fire alarm outfit, consisting of a fire alarm box, gong and a ticker, which made tours of the business district and visited the public schools during Fire Prevention Week giving instruction to the public in general as to the proper manner in which to turn in an alarm.

The City of Minneapolis adopted the slogan of "No Fire Week." Two huge clocks were erected on two of the most prominent corners in Minneapolis and each day at noon during the week an aerial truck made the run to the clocks, the aerial was raised and the firemen turned the hands of the clock to the number indicating the number of fires occurring during the past twenty-four hours.

A rather sensational stunt was staged by the St. Paul fire department. At about 12:30 noon several times during the week a smudge was built on the third or fourth floor of some downtown office building. The traffic officer on the beat would send in the fire alarm and several pieces of apparatus, including the aerial truck, would respond. The aerial would be raised and several firemen would enter the window from which the smoke was issuing. In a few moments one of the firemen would carry out of the window and down the ladder on his back a man dressed in red, representing the fire demon. About that time the police patrol would arrive on the scene and the fire demon would be placed under arrest and taken off to the tombs.

Much fire prevention literature was distributed through the Fire Marshal's office but many cities got out something special. One of the most attractive bits of fire prevention literature circulated was issued by the Mankato fire department, printed in black on a red card, five by fourteen inches, under the caption, "Do You Know What to Do In Case of Fire?" with instructions as to how to send in a fire alarm by box or phone. A few striking fire facts were given and the following valuable household hints on fire prevention.

### "HERE ARE SOME OF THE WAYS THAT YOU CAN HELP"

To protect your home from damage or destruction by fire, it is necessary that everything possible be done by EVERY MEMBER of your FAMILY to prevent the fire from starting.

**RUBBISH**—Always keep the basement and attic free from rubbish and debris. A clean home is not a potential fire hazard. Clean up regularly and often.

**SPONTANEOUS COMBUSTION**—Never allow oily rags or waste to lie about. Burn them, or keep them in metal containers with self-closing covers. Oily rags burst into flame.

**ELECTRICITY**—Be sure your electrical equipment is in good condition. Disconnect heaters and irons when not in use.

**ASHES**—Be careful with hot ashes and open fires. Do not place ashes near combustible material, but keep in metal receptacles.

**GASOLINE**—Do not use or store in the home. It is dangerous. Many women lose their lives every year cleaning with gasoline in the home.

**MATCHES AND SMOKING**—If you smoke, watch the matches. Extinguish cigars or cigarettes before throwing them away. Keep matches away from children. Do not use matches in dark closets or attics.

**CHIMNEYS**—Be sure chimneys and flues are in good condition.

**HEATING DEVICES**—Inspect regularly all stoves, boilers, furnaces, and their pipes and see that they are kept in good condition.

**LAMPS**—See that gas or oil lights, candles, or other open flame lamps are so placed that curtains, drapes, etc., cannot be blown into them.

**REMEMBER THAT MOST FIRES COULD HAVE BEEN PREVENTED.**

**MAKE EVERY DAY A FIRE PREVENTION DAY."**

Other towns from which reports of Fire Prevention Day activities have been received are Hibbing, Virginia, Mora, Fergus Falls, Faribault, Northfield, Benson, St. Peter and Kenyon, each one of which conducted programs along the line described above.

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire  
Prevention and Fire Protection

SAINT PAUL, OCT. 15, 1921

The Bulletin will be mailed to any address  
regularly upon request

**PREVENTION EDUCATION LAWS  
PASS**

Compulsory fire prevention education laws have been enacted by the following states: California, Rhode Island, West Virginia, Wisconsin and Ohio. New Jersey adopted such a law last year and has placed about 100,000 of "Safeguarding the Home Against Fire," the manual prepared by the National Board of Fire Underwriters for the United States Bureau of Education, in the schools of the state.

Compulsory fire prevention education has been the result chiefly of the efforts of the National Association of Credit Men, which has been active for many years in promoting fire safety. This association was one of the first national organizations to recognize the necessity of fire prevention on the part of all the people, if fire losses were to be reduced.

In only one state where the compulsory education measure passed last year, was it vetoed by the governor.

**COURT'S SANE SENTENCE**

As a corrective measure for the curious small boy who wants to turn in false alarms in order to watch the fire department respond, the action of a Houston (Texas) Juvenile Court Judge is one well calculated to educate and cure. This boy in Houston, 14 years of age, turned in a false alarm and the court pronounced sentence, calling for the writing of the following statement 1,000 times: "I realize that it is against the law to turn in a false alarm and understand why. It costs the city a large sum every time fire engines respond to a call. Moreover, every time there is a danger that someone may be hurt."

• • • • • • • • • • • • • • •  
 • The fellow who hung his cel-  
luloid collar, together with his  
shirt and other wearing apparel,  
near a stovepipe, knows now  
that celluloid and heat make a  
combination not conducive to  
longevity for wearing apparel.  
• • • • • • • • • • • • •

**TAKING THE MYSTERY OUT OF FIRE INSURANCE**

(Originally appearing under the title of "Giving a Thought to Fire Insurance," by John B. Morton, President National Board of Fire Underwriters, New York, to be published in eight installments in this bulletin.)

**CHAPTER I**

Conflagration Lessons — Premium rate on the down grade. Cost not increased during the war period. Service back of indemnity.

Could a fire destroy the Boroughs of Manhattan or Brooklyn in the New York City of today? Those who are responsible for the futures of the great stock fire insurance companies constantly ask that question of themselves as they keep in their minds fairly exact figures showing the amount of liability which would result from an uncontrollable fire.

New York has more fireproof buildings than any other city in the world. To us they mean fire barriers dividing the city—much as do fireproof division walls in some manufacturing plant. The ordinary blaze is smothered before it has a chance to assume alarming proportions, and yet a conflagration so great as to startle the world is always a possibility. I am not an alarmist and therefore wish to emphasize the fact that there would have to be a most remarkable conspiracy of untoward fate and circumstance, before such disaster could sweep New York. But—well, that's our biggest problem, just the same, in New York as well as in every other city in the country.

It has been my privilege to observe fire underwriting from the reconstruction days that followed the Civil War to the present when we are reacting from a world struggle that was for the protection of our very existence. It has been a pride and a satisfaction to me to know that alone of all the great modern business agencies, fire insurance companies have not increased the cost of their services to the public in this period of high prices. When the war was on and we were all readjusting ourselves to the higher costs of living, a temporary surcharge was made, but that increase of cost was only 10 per cent, and it remained in force only a few months. Ours is not a business of immediate results and we take our risk today, but our profit, if any, may only be determined in the distant future.

The average cost of fire insurance, however, is not only lower now than it was before the Great War, but it kept on going down during the war when everything else went up from 50 per cent to 300 per cent. Perhaps your own rate did not change, but it is still true that the average cost was lowered. That too, in the face of a demand unprecedented in the history of the business due largely to the enormous increase in values. Fire insurance at least was one business where demand did not make for extortion or overcharge when the pressure was on.

The fire that gave birth to fire insurance as a business occurred in London in 1666. This was a bit before my time, but I have observed a close range the results from the Chicago Fire of 1871, followed by the Boston conflagration of 1872. Disastrous as they were to the companies of that day, the economic effect was small compared with the destruction in three days' time of \$350,000,000 of property in San Francisco in 1906.

Do you recall what happened in 1907—the year after the San Francisco fire? Was there not a panic that tested us all? Such an enormous shifting of values could not be made without a severe reaction and the economists told us that the prime factor was the sudden withdrawal of over \$200,000,000 from investments by the stock fire insurance companies to pay their losses in San Francisco.

Maybe this is a good moment to point out that fire insurance only indemnifies; it does not restore. The money paid out in San Francisco came from capital and surplus fund of stock fire insurance companies and from the pockets of their stockholders. To pay their losses these companies had to cash in on their prime securities. Further, they had to call into their business about \$90,000,000 of new money as a result of that one conflagration. Despite all this the fatalities among companies occasioned by that catastrophe were negligible compared with those following the earlier Chicago and Boston conflagrations when wildcat banks and wildcat insurance companies were numerous. There are few of that type in existence today; the insurance laws of all the states are too rigid and the public supervision is too close.

The later conflagrations mentioned are only three of a score or more during my lifetime, each of which has taught its lesson. Their combined effect has been to lower the average cost of fire insurance to you! Sounds like an absurd statement doesn't it? And yet, literally, it is true. Conflagrations have taught us to urge you to erect better buildings and adequately to safeguard them from fire by every approved mechanical device, and by cleanliness and careful management, the inducement being to give you heavy credits in your premium rate when you follow our counsels. Today no architect of any great structure would dream of beginning his plans without consulting the men behind the whole rating system of fire insurance—the engineers who specialize for us on how to prevent and extinguish fire and how to build to resist fire.

(To be continued.)

## THAT DANGEROUS EXTENSION LIGHT

### It May Mean a Fire

That pendant electric cord looks innocent enough, but really is full of impending danger. Three men, each in the prime of life, were electrocuted in this state between June 27 and July 2, 1921. Each carried a defective extension cord into a boiler, during hot weather, when his hands and body were wet with perspiration. Making good metallic contact to earth through the boiler walls and grasping the defective cord and socket with wet hands provided the circumstances which made the supposedly harmless 110 volt electric current, used for lighting purposes, deadly. About one-tenth the current required by the ordinary 100 watt lamp passing through man's vital organs is fatal.

When the hands are dry and we stand on dry wood, little harm comes from touching a live part at 110 volts; but when the hands are wet and a man stands on the ground, on a damp concrete floor or on metal in contact with the ground, then there is great danger. The obvious remedy is to use only the very best cord and equipment for work under such circumstances.

Do not use the ordinary green, twisted cord. Its light covering gets worn too easily; it gets water soaked and the wires easily puncture the light rubber and cotton cover. Instead use the reinforced cord only, which has been weather-proofed. It consists of the ordinary cord with an extra rubber jacket and filler, and over all a weather-proof cotton cover. The finished reinforced cord looks like a single wire of large diameter.

#### GARAGE HAZARD

Automobile owners will often run their cars into a garage but fail to turn off the switch on the battery which is left running. By the constant running of the battery the insulation wires get hot and break, thereby causing a short circuit. If there is grease close to the battery it quickly catches fire. Moreover, garage owners are usually careless about seeing that the switch is turned off and as a consequence there are many fires in public garages of "unknown origin."

#### U. S. HEAVY MATCH USER

It is interesting to know that the United States, with approximately one-tenth of the civilized world, uses more matches than the other nine-tenths. This, without a doubt, explains to a considerable extent why our fire losses are the heaviest of any nation, with the possible exception of Canada.

Our fire prevention orders provide that where portable electric lights must be used, they shall be equipped with an approved reinforced cord and wire basket guard. Do not use the ordinary brass, shell type socket. Moisture makes the shell alive and it is easy to accidentally touch a live part; moreover, it will not stand hard usage.

Use a keyless, weather-proof, porcelain socket instead and arrange a switch at the point where the plug is attached to the permanent wiring, and further arrange so that any heavy pull on the cord will break the connection at the plug.

A large, heavy, wooden handle covering the entire socket and the cord where it enters the socket should be provided, also a wire basket guard extending from this handle over the lamp, with a hook for convenience of hanging up. A metal shield to protect the eyes from the direct rays of the lamp should also be provided.

The electric current pulls the heavy train across the "Rockies," a small fraction of it can send you to eternity. Carefulness must be the watchword in handling this unseen power.—Industrial Commission of Wisconsin.

#### FIVE YOUTHS PERISH IN

#### FIRE AT PINE CENTER

Youngsters Trapped on Second Floor of General Merchandise Store and Postoffice.

*Fire Prevention Day was ushered in most tragically in Clearwater county as the following from the Duluth News Tribune will testify.*

Bagley, Minn., Oct. 8.—Five children of Nels Nelson, the oldest aged 14 years, were burned to death in a fire early today at Pine Center, 15 miles south of here, which destroyed the general merchandise store and postoffice there.

The fire was caused by an overturned stove and the children, three girls and two boys, were trapped on the second floor, where they were asleep.

Mr. and Mrs. Nelson, with an infant daughter, were sleeping on the first floor and managed to make their escape, but not until they had suffered minor burns.

Pine Center is an inland town with no fire protection and the Nelsons were the only residents. The complete merchandise stock was destroyed. Coroner P. C. Peterson left here early this morning to make an investigation.

#### HERE ARE DON'TS FOR USE WHEN YOU GO ON A TRIP TO THE FOREST

Government Rules and Books at Library Good Literary Diet for Those Interested in Fire Prevention Work.

#### BY DELLA McGREGOR,

Chief of Juvenile Division, St. Paul Public Library.

Thousands of trees are killed in this country every year by fires that burn through the forests. A forest fire lasting but a few hours may kill a thousand trees that needed a hundred years to grow.

In summer fires are frequently started along the railroads by sparks from the engines. People out for a walk in the woods throw down lighted cigars and cigarettes, or drop lighted matches. So in many ways the fires are started. The trees are almost as necessary to our welfare as food. We could not do without them. Always, therefore, we should be very careful when in the woods and forests.

To obtain the co-operation of the public in preventing forest fires the United States forest service has prepared several "Don'ts" which should be strictly observed by every person who has occasion to go into a forest, large or small, for any purpose. Here are a few of these rules:

#### Fire Prevention Don'ts.

Don't throw your match away until you are sure it is out.

Don't build a campfire any larger than is absolutely necessary.

Don't build a fire against a tree, a log or a stump, or anywhere but on bare soil.

Don't leave a fire until you are sure it is out; if necessary smother it with earth or water.

Don't be any more careless with fire in the woods than you are with fire in your own home.

Don't be idle when you discover a fire in the woods; if you can't put it out yourself, get help. Where a forest guard, ranger or state fire warden can be reached, call him up on the nearest telephone you can find.

Don't forget that human thoughtlessness and negligence are the causes of more than half of the forest fires in this country, and that the smallest spark may start a conflagration that will result in loss of life and destruction of timber and young growth valuable not only for lumber, but for their influence in helping to prevent flood, erosion and drouth.—St. Paul Daily News, Sunday, Oct. 9th.

# FIRE MARSHAL BULLETIN

## STANDARDIZING HOSE COUPLINGS

The movement which has gained so great headway, thanks to the efforts of various organizations of fire chiefs, the National Board of Fire Underwriters, the National Fire Protection Association and several of the fire marshals, in the matter of standardization of fire hose couplings and hydrants is one of the greatest importance. Up to one or two years ago many disastrous fires were directly attributable to the fact that when a blaze became beyond control of the local fire department and neighboring fire fighters were summoned they were unable to assist owing to a different hose thread. They were prevented from coupling up their hose for this reason and were compelled to stand idly by while the conflagration raged, one of the most harrowing things that can happen to any firemen.

Now a simple series of adapter tools has been devised whereby threads of fire hose and hose couplings can be changed to a  $7\frac{1}{2}$ -inch thread and a  $3\frac{1}{16}$ -inch outside diameter, the standard decided upon as nearest to the great majority of threads.

Much good work has been done through these adapters in many states, and fire departments throughout them have been standardized so that when fires occur in one municipality that threaten to get beyond control of the local department the apparatus of neighboring cities and towns can quickly assist in subduing the blaze. In Canada the standardization movement is also under way, but in the Dominion, the greater number of departments having six thread couplings, that size has been adopted as the standard.

It would, of course, have been better, if at all possible, to adopt the United States standard; but the Dominion Association of Fire Chiefs and the Canadian Underwriters followed, probably wisely, the line of least resistance and adopted the nearest size to the majority, six threads to the inch.

Thus the movement for standardization has spread over the continent and will result in great saving in the fire loss in the United States and Canada.—Fire and Water Engineering.

## PROTECT THE LIVES OF SCHOOL CHILDREN

Now is the time for critical inspection of school buildings before heating plants are again started. A single fire door or other inexpensive draught barrier may save a school, and perhaps child lives next winter.

Remember, children are compelled by law to go to school! Our responsibility for their safety is therefore absolute. Inspect your school building now!

## A REAL HAZARD

New York City has an ordinance making it a misdemeanor to throw away a lighted cigar or cigarette in any structure, building, car, or vehicle used for common carriage of passengers. In one year, New York City had 1,377 convictions and punishments for violation of this ordinance. Necessity for regulations of

this kind is made clear when it is understood that more than 300,000,000 pounds of tobacco are raised in the United States each year and an additional large quantity is imported from other countries. It is estimated that 5,000 matches are struck every second in order to keep this tobacco burning for the smokers of the country. That is a description of the potential fire hazard of the smoker.

## BUILDINGS CONDEMNED DURING THE MONTHS OF AUGUST AND SEPTEMBER.

Owner	Location	Kind of Building
Christ Larson, Pabst Brewing Co., J. C. Collin,	677 Kent St. 1161 No. Snelling Ave. /Duluth,	Shack Frame Bldg. Barn
Mrs. M. A. Dennison, B. W. Taylor, Chas. A. Swedback, Andrew S. Anderson, James H. Vicker, Alma Annette, J. A. Harder, Joseph Forner A. P. Goss, A. Morehouse, C. M. Tapager, H. M. Wulff, Ole Lunde, G. D. Brown, Mrs. M. A. Donavan, G. W. Doolittle, Wm. W. Smith, Edw. O'Brien, H. I. Peterson, Martin Olson, Susan A. Lalley Johnson, Edw. Brattensberg, Moorhead National Bank, Northwestern Mutual Investment Co., Mary F. Lamb, Henrietta Wilk, J. S. Erickson, Jacob Kiefer, Sr., C. E. & N. B. Remley, First National Bank, W. H. Davy, Ward Sherman, John Michell John Michell Harvey Baraze,	Bertha, Bemidji, Bemidji, Bemidji, Big Falls, Butterfield, Chaska, Eveleth, Foreston, Hartland, Hartland, Hartland, Hartland, Hartland, Howard Lake, Kelliher, Litchfield, Moorhead, Moorhead, Moorhead, Moorhead, Moorhead, Moorhead, Moorhead, Moorhead, Moorhead, Moorhead, Moorhead, Moorhead, Moorhead, Moorhead, Moorhead, Moorhead, Moorhead, Ortonville, Ortonville, Red Wing,	Vacant Bldg. Barn Shack Rooming House Store Bldg. Vacant Bldg. Frame Bldg. Frame Bldg. Frame Bldg. Barn Store Store Warehouse Opera House Store Ice House Frame Bldg. Store Barn Sheds Barn Paint Shop Ice Houses Barn Blacksmith Shop Warehouse Barn Barn Paint Shop Barn Barn Barn Barn Barn Barn Barn Barn Barn Barn Barn Barn Barn Barn Storage Store

## FIRE LOSSES FOR MONTH OF SEPTEMBER, 1921

	No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	34	\$970,425	\$180,965	\$281,550
Minneapolis . . . . .	38	604,300	47,435	394,150
Duluth . . . . .	8	354,000	3,335	315,300
Outside Three Cities . . . . .	98	710,314	196,116	427,560
Total . . . . .	168	\$2,675,040	\$428,851	\$1,418,560

## SEPTEMBER, 1920

	No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	24	\$970,425	\$180,965	\$281,550
Minneapolis . . . . .	46	1,695,250	57,676	1,492,950
Duluth . . . . .	10	84,625	6,250	67,900
Outside Three Cities . . . . .	68	510,135	299,917	240,380
Total . . . . .	158	\$3,169,960	\$448,768	\$2,314,047

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UNIVERSITY OF ILLINOIS LIBRARY  
DEC 30 1921

# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTELETON, Fire Marshal

Room 330, State Capitol

No. 32

Saint Paul

November 15, 1921

## Carelessness That Costs: Somebody Pays The Bill

### SICK HUSBAND SAVED BY WIFE AS HOME BURNS.

Minneapolis.—Desperate efforts of Mrs. J. E. Cullins and her little daughter saved the life of Mr. Cullins early today when fire completely destroyed their residence at 2401 Rockwood avenue, St. Paul, Minnesota. Mr. Cullins was sick and unable to leave his bed. He was carried through the flames by his wife and daughter to safety, and taken care of by neighbors. The fire started by explosion at 4:15 A. M. of a kerosene lamp burning in the sick room.

### TRAPPED WOODSMAN BURNED TO DEATH.

International Falls.—Trapped in his cabin when the only exit was cut off by flames, Peter Peterson, aged 60, was burned to death, according to Coroner Liljeblad, who investigated the case. Peterson lived alone in the cabin located near Norden postoffice, 14 miles north of Killeher.

### TWELVE HORSES DIE IN FIRE.

Ellendale, Minnesota.—Twelve horses were burned to death and several others badly injured in a fire which destroyed barns of the Cameron, Joyce and Company on the Nels Thompson farm, a mile west of here. It is believed the fire was caused by the overturning of a lantern while the teamsters were feeding their stock.

### BOY CONFESES STARTING FIVE FIRES.

Crookston.—John Kiewel confessed to state and county authorities that he has caused five fires here this summer with a total monetary loss of \$5,000. One of the fires attributed to the boy was at his own home.

### FLOUR MILL FIRE CAUSES \$10,000 LOSS.

Minneapolis.—Fire which started on the fourth floor of the "B" mill of the Washburn-Crosby Company caused a loss estimated at \$10,000, and will result in the closing of the mill for several days. The mill is one of the oldest in the city.

### COW UPSETS LANTERN.

Crosby.—A fire caused by an overturned lantern in a cowbarn on the Mertz farm, north of here, resulted in a loss of \$7,000. The farm is operated by A. L. Moonshower, who, while milking, hung his lantern on a wire. One of the cows knocked the lantern down, and the barn took fire, being completely destroyed. Moonshower saved all but two of his cows but was severely burned while doing so. He had to tear his clothing off to save himself from being burned to death.

### FIRE DESTROYS LUMBER YARDS.

Minneapolis.—Fire that destroyed the yards of the Pockrandt Lumber Company, in St. Louis Park, caused a loss estimated at \$75,000 and lighted up the sky for miles around. The fire swept over 25 city lots.

### FIRE DESTROYS RAIL COAL SHEDS.

Winona.—Fire of undetermined origin destroyed the coal sheds of the Northwestern road division shops here, entailing a loss estimated at \$20,000. It took the combined efforts of every fireman and all the city's fire fighting apparatus to prevent the flames from spreading to adjoining structures. Last year the total fire loss in Winona was \$4,500, said to be the second best record in the country.

### "HOME FIRES" START 25 BLAZES.

Minneapolis.—Near-winter weather with the temperature at the freezing point and frost covering walks and pavements, greeted early risers in Minneapolis. Thermometers registered 38 above at midnight and citizens who were out were wrapped in heavy coats and furs. Yesterday was a busy day for the fire department, as 25 calls coming from homes where small fires had been started by overheated furnaces and burning chimneys. The largest loss was to the homes of A. F. Counter, 3123 Pillsbury avenue, and G. E. Hastings, 3127 Pillsbury avenue. The total damage was estimated at \$2,000.

## In Memoriam

IN THE DEATH OF LLOYD V. CONLEY  
THE STATE OF MINNESOTA HAS LOST A  
FAITHFUL SERVANT. HE WAS NOT ONLY  
A CONSCIENTIOUS WORKER, FEARLESS  
IN THE PERFORMANCE OF HIS DUTY,  
BUT HE WAS INTELLIGENT AND EFFI-  
CIENT AND LEFT A RECORD WHICH WILL  
SERVE AS AN EXCELLENT EXAMPLE FOR  
OTHERS IN THE STATE'S SERVICE TO  
FOLLOW.

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire  
Prevention and Fire Protection

SAINT PAUL, NOV. 15, 1921

The Bulletin will be mailed to any address  
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**FOUR CHILDREN PERISH IN  
NORTHERN MINNESOTA.**

Duluth, November 14.—Four children, three of them under five years of age, were burned to death Sunday night in a farm house fire near Finlayson, in Pine County, Minnesota.

Three of the victims, Robert Dixon, 4 years old; Dorothy, 3, and Bernard, 2, were the children of Henry A. Desch, a member of the Duluth fire department. The fourth victim, Elizabeth Meyerson, 14 years old, was the daughter of Meyer Meyerson, also of Duluth.

The children were left in charge of Elizabeth Meyerson. The parents saw the house burning, but were unable to reach it in time.

The bodies of the four victims will be buried in one coffin.

**GARAGE FLOOR HAZARD**

Plank floors in garages are a constant fire hazard, and to be avoided in new garage construction. For old floors already oil-soaked a safety measure is suggested. The principle of the corrective treatment is to saponify the oil in the boards so that it can be removed from the pores of the wood. This is accomplished by scrubbing the floor with a strong solution of lye, the solution having been thoroughly cooled before being applied to the wood. In this way the oil is combined chemically with the lye so as to form soap, which can be flushed away by a stream from a hose-line.

Permit no accumulation of waste and rubbish. Closed metal cans should be used for temporary use, where this is necessary, and contents should be disposed of daily. Hot ashes should never be deposited in wooden receptacles or against combustible material.

Smokers should be careful in discarding matches, cigars, and cigarettes. Thoughtless habit too often is responsible for fires caused by discarding of such lighted articles.

**TAKING THE MYSTERY OUT OF FIRE INSURANCE**

(Originally appearing under the title of "Giving a Thought to Fire Insurance," by John B. Morton, President National Board of Fire Underwriters, New York, to be published in eight installments in this bulletin.)

**CHAPTER 2**

*Schedule Rating, The Self Elective System — Property Owner Given Voice -- Economic Cost Trend is Downward--Method is Scientific.*

Where 1, a business man seeking safe quarters for a mercantile or manufacturing enterprise in any large city, 1 would not only want information as to the rental price but I would want to know what fire insurance rate 1 would have to pay. While no guarantee against destruction by fire, of course, a low premium rate indicates that the construction is good and the danger from fire minimized. There is nothing like modern scientific rating by schedule to strip off the gingerbread and make a building transparent.

Schedule rating is your fire insurance balance sheet of debits and credits. On the debit side are the fire breeding and fire spreading deficiencies; on the credit side the fire resisting, fire preventing and fire extinguishing factors. As these matters are largely under the control of the owner, we call this a self-elective rating system. It is rightly named.

Pause for a moment and imagine the thousands of ramifications that must enter into schedule rating. No two buildings are alike; no two occupancies alike; fire resistive and fire breeding conditions are all different.

Designed at first for mercantile and manufacturing properties and other large structures used for business purposes, schedule rating has been extended to apartment houses of larger area, though not yet generally to average dwellings. It takes into consideration varying features of each individual risk and looks also to the conflagration possibilities and probabilities of the city in which the property is located, including width and grade of the streets, police and fire department efficiency and other factors that might have a bearing upon "damageability" from fire.

There is nothing secret about the way your rate is made. It is set forth in this balance sheet of debits and credits (all printed out in detail and expressed in dollars and cents) and you or your authorized agent or broker may have a copy. In fact you should study this balance sheet carefully if you would know how your premium rate may be still further lowered by improving the fire resistive features of your property.

Our schedules are not perfect—no man made system is—but we are sincerely trying to perfect this self-elective plan of rating for your sake as well as our own. It is one of the anomalies of fire insurance that we,

as underwriters, would rather insure low than high rated risks. So we bend our energies toward inducing you so to perfect and safeguard your property that a low rate will be produced. Every time we can by this method prevent a fire loss—and every fire in a large city is the seed of a conflagration—we reduce the cost to you, furnish an example to others, conserve the resources of the country and possibly make some money ourselves. Yours is the short, but ours is the long road to profit.

About the only classes of properties today not generally rated by schedule are average dwellings and risks of like character. Logically all such properties fall into certain groupings based upon construction and take the same or a fixed or flat rate. We term it a "minimum" rate. It is quite expensive to rate dwellings by schedule, there not being enough differentiation in the individual risks, which are grouped by grades of construction called "classes," to make an appreciable difference, and the premium rate is so low to start with that the variation is likely to be only a few cents either way. The trend, however, is toward the application of schedule rating to even these few exceptional classes.

The machinery for schedule rating is enormous. Practically every fire loss in the United States sustained by stock companies is now classified as to cause, construction of the building, occupancy—everything! It is a herculean job. We are learning to measure the "damageability" of property of the many kinds (how susceptible to fire and water damage it is); the hazards of "exposure" (your neighbor's property); what breeds fire, spreads fire, and what puts out fire. All this is reflected in a basis rate which may be termed our manufacturing cost for better understanding. To this we must add our home office expenses; the charges we have to pay for public supervision, and fees and licenses, to the forty-eight states of the Union; taxes, (exceptionally high taxes they are, too), and the cost of inspection, re-inspections and what not, all of which may be likened to the "jobbing" of manufactured articles, though there is, of course, much difference. Our retailing process comes when the finished product—the policy contract—is delivered to you at a given rate through local agents or brokers. In addition to all this, of course, comes the constant stream of fire losses and their adjustment and payment.

Every agent and every broker are lending their influence to induce you to make the changes that will make your property safer and thereby secure credits in your premium rate; inducements that make the cost to

(Continued on Page Four)

# FIRE MARSHAL BULLETIN

## Cigarette Carelessness

An incident that came to the notice of the editor during the annual convention of the International Association of Fire Engineers at Atlanta, Ga., emphasizes the indifferent attitude of a large section of the population of the United States to the subject of Fire Prevention. While he was awaiting an elevator in the Piedmont Hotel a gentleman, happily not a member of the association as he wore no badge, approached, and as he reached the elevator shaft deliberately dropped his lighted cigarette on the deep-pile carpet and put his heel upon it. As the car arrived at this juncture the man boarded it never so much as turning his head to see if he had extinguished the lighted cigarette.

The reports of chiefs and fire marshals generally mention the cigarette as the cause of many fires in their cities and yet it is probable that few recognize the significance of this statement. Here then is a concrete example. It would be a very simple matter for the cigarette to have flared up again, provided a single spark had escaped the pressure of the man's heel and, surrounded as it was by the inflammable soft pile of the carpet, a blaze would have been inevitable. The significance of this incident, small as it may appear, lies in the fact that it illustrates the incredible carelessness and indifference of the average man-in-the-street in the matter of Fire Prevention. No doubt if the attention of the individual in question were called to the matter he would have said that there was no possibility of fire after his heel had ground out the light. Yet experience has shown time and time again that serious conflagrations have resulted from just such individual carelessness, where, while it might not happen in fifty cases, the fifty-first might result in a serious fire with a certain loss of valuable property and, especially in the case of hotels, probably loss of precious lives.

In this connection the importance of the makers of cigars, cigarettes and tobacco placing in their packages of the weed warning notices to consumers calling their attention to the danger of fire through the throwing away of lighted cigars, cigarettes and matches, has been emphasized by the action of several associations, including the I. A. F. E., the Pacific Coast and the Dominion Associations, and several insurance organizations, which have requested these makers to adopt this policy. At last reports no attention had been paid to these requests but it is to be hoped that the manufacturers will realize the importance of acceding to the suggestions, which would result in reducing to a very large extent the great fire losses of the country.—**Fire and Water Engineering.**

## DECIDEDLY EFFECTIVE.

The use of a lighted match or other flame to ascertain the contents of a gasoline can is always effective — sometimes more so than others. A good plan for the person who thinks there is no danger is an open flame around gasoline to pursue is to have his affairs in such shape that litigation will be unnecessary after it is all over.

## PERSONAL RESPONSIBILITY FOR FIRES

The New York Times recently said in an editorial, "Most of the fires were due to somebody's carelessness, stupidity or penuriousness. For every such fire somebody is responsible, and in a properly ordered community, for every such fire somebody should pay a penalty proportioned to the trouble, loss and danger imposed by it on his neighbor and the general public."

If more of the daily press would raise their voices in the cause of enactment of personal liability laws, and would keep at it, there would be a better prospect of passing such legislation in states where laws of this character do not exist. That statutes providing penalties for responsibility for careless fires are the most important of all Fire Prevention legislation, no one can doubt.

## TAKING THE MYSTERY OUT OF FIRE INSURANCE

(Continued from Page Three)

you lower. Every rating organization in the country has an export staff that is ever at your service for this specific purpose.

If you know of any other business that is so ready and so willing, even so anxious, to give you immediate concession in price for doing your obvious duty to yourself, your community and your Nation—well, I would like to know what business it is!

A quart of gasoline will cause an automobile to move three miles. A similar amount used in household cleaning may cause three auto fire trucks and an ambulance to run a similar distance.

## LOTS OF 'EM!

Among those present in the house boat on the Styx were the "man who rocked the boat" and the chap who didn't know it was loaded." "Where," it was asked, "is the fellow who smoked in the garage?" "Alas," replied Charon, "There were so many of him we had to use a troop ship.—Whittlings.

How about the fellow who lights a match to see how much "gas" he has? It will take a fleet to handle that mob.

## FIRE LOSSES FOR MONTH OF OCTOBER, 1921.

	No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	45	\$482,770	\$21,730	.....
Minneapolis . . . . .	67	2,761,800	65,280	.....
Duluth . . . . .	21	238,200	19,285	.....
Outside . . . . .	125	696,882	363,982	.....
Total . . . . .	258	\$470,277	\$3,472,668	.....

## FIRE LOSSES FOR MONTH OF OCTOBER, 1920.

	No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	34	\$879,950	\$84,925	\$512,810
Minneapolis . . . . .	46	1,695,250	57,676	1,492,950
Duluth . . . . .	10	84,625	6,250	67,900
Outside . . . . .	68	510,135	299,917	240,380
Total . . . . .	158	\$3,169,960	\$448,768	\$2,314,040

## BUILDINGS CONDEMNED DURING MONTH OF OCTOBER.

Owner	Location	Kind of Building
A. Dahl,	253 E. University Ave.,	Dwelling
H. E. Deathe,	253 E. University Ave.,	Dwelling
Margherita Farraro,	281 E. University Ave.,	Dwelling
Charles P. King,	182 Goodrich Ave.,	Barn
Thorwald Hansen,	1557 University Ave.,	Store
Edmund W. Wallace,	183 Ramsey Street,	Vacant Building
	Minneapolis	
Church of Immaculate Conception,		Hall
Northland Pine Co.,		Mill
Patrick Hamel, W. M. Pearce,	14½ E. 5th St.	Vacant Building
Elizabeth Pearce,		Dwelling
Henry Kerns,	Sauk Rapids	

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# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

o. 33

Saint Paul

December 15, 1921

## Public Entertainments.

All the precautions that have been mentioned for the home should be strictly observed at public celebrations and, in addition, thought should be given to the matter of clear and adequate exists in case of fire. The hall or room selected for the occasion should be upon the ground floor and should be ample to accommodate the expected audience, without crowding.

## Precautions for Merchants.

In the department stores and other shops which are dangerously crowded during the holiday season, it is especially important that Christmas decorations of an inflammable nature should be avoided and that all temporary wiring for electric lighting or power should be installed by expert electricians and inspected by the underwriters. All circuits should be properly fused and should not be overloaded. The greatest care should be exercised to prevent incandescent lamps from coming into contact with either natural or artificial leaves, paper ornaments and streamers or other inflammable materials. Paper shades should never be used. This is true of window decorations as well as of those inside the store.

Accumulations of holiday packing materials hold dangerous fire possibilities, and all scraps should be removed twice a day. It is especially hazardous to allow such rubbish to pile up under counters and stairways and at the base of elevator shafts. Large "NO SMOKING" signs should be displayed throughout the store and the rule enforced.

The merchant should make it a rigid rule that all aisles be kept clear and it is an excellent plan to drill the clerks in the use of apparatus and in the rudiments of fire fighting. Fire exits should never be blocked by any chance.

## MOONSHINE AND CIGARETTES.

This combination it is charged was responsible for a dwelling house fire recently reported by Vesta, Minn., fire officials. An occupant of one of the rooms was the offending party. A cigarette was the contributing cause. Moonshine did the rest. Fortunately the loss was small and the damage slight.

## Making Christmas Fireproof

OO often the Christmas season, which should be an occasion of mixed cheer, becomes a time of agony in many households because of death or serious injury by fire. The highly inflammable evergreen trees and decorations or the cotton beard of a thinly disguised Santa Claus frequently ignite from a lighted candle or match and serious results ensue.

It may be mentioned, also, that increasing the fire hazard "by any means within the control or knowledge of the assured" releases the insuring company from liability for loss unless there is a special stipulation covering such hazard.

### Safeguards.

In the first place the tree should be set up securely so that it will not easily topple over, and it should be located several feet away from any eating or lighting fixture. Metal tinsel with flake asbestos and powdered mica make excellent materials or snow effects and will not burn. Cotton and paper, on the other hand, are highly dangerous. The tree should never be illuminated with candles. There is some danger from the widely sold colored electric light assemblies due to insufficient insulation and other causes, but the hazard is small beside that of the lighted candle.

On one recent occasion a woman living in a New York apartment limbed upon a chair to light the candles on a large Christmas tree in order to entertain her little daughter and a neighbor's child. While reaching for a candle at the top of the tree, she accidentally touched her lighted match to a colored paper chain, which blazed up and ignited other decorations. The woman tried to snatch some of the burning papers off the branches, but lost her balance and fell against the tree, pushing it over on the floor. When she regained her feet her dress was on fire and she ran, screaming, out into the hall of the apartment house, fanning the flames until she became a living torch. Aid came too late and she succumbed to the flames.

Ornaments should be of metal and

not of paper or pyroxylin plastic, which is commonly known as celluloid, pyralin, French ivory and by other trade names. Pyroxylin plastic is extremely inflammable and will ignite at a comparatively low temperature.

### Matches and Smoking.

Smokers should exercise great care with their matches and smoking materials, and parents should see that all matches are kept in metal or china containers out of reach of the youngsters.

Toys involving the use of alcohol, gasoline or kerosene should be avoided and low-priced electrical playthings should be viewed with suspicion since they often are insecurely wired and flimsily constructed.

An extremely hazardous plaything of comparatively recent development is the home motion-picture projector using celluloid film and often illuminated with a flimsy calcium carbide lamp. It would be difficult to place a more dangerous combination in the hands of children.

If the call for Santa Claus is a crying need that will accept no substitute, the impersonator should avoid long cotton "whiskers" and should keep away from lights and open fires. As an additional protection, the costume used may be partially fireproofed with the following solution: Two ounces of carbonate of soda; two ounces of ammonia carbonate; two ounces of boric acid and five gallons of water. The mixture should be allowed to come to a boil and should then be strained and sprayed upon the material to be protected. If Santa's clothing or that of anyone else does catch fire, the victim should be rolled in a rug or woolen cloth and the flames smothered as promptly as possible. The flames should be kept from the face.

In order to prevent the spread of any fires that may start, a bucket or two of water and a fire extinguisher should be kept ready at hand.

Another important safeguard is to remove all evergreens immediately after Christmas, before they become completely dried out.

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire  
Prevention and Fire Protection

SAINT PAUL, DEC. 15, 1921

The Bulletin will be mailed to any address  
regularly upon request

**THAT CHRISTMAS TREE;  
WATCH IT CAREFULLY**

The approach of the Christmas season always fraught with anxiety and toil for the fire fighters and the coming holidays are no exception to the rule. While last Christmas saw only a few fires in Minnesota traceable to the Christmas tree, the possibility of a holocaust due to carelessness is always present and the fears of those concerned will not be allayed until the Yuletide period is over.

The principal Christmas hazard and the one responsible for many frightful deaths and much property loss in the past has been the Christmas tree. Next in line is that of flimsy decorations and the use of the open flame for lighting purposes. The two have always been a combination for everything that is bad and though numerous "Don'ts" have featured the educational work used in their elimination the two still continue to an extent. There is absolutely no excuse for such.

While there is no legal ban on the use of candles for Christmas tree lighting there is a parental obligation involved and it attaches to every father and mother to the extent of seeing that nothing is permitted that will in any way endanger the lives of the kiddies. This means the substitution of electricity if possible for tree lighting purposes and if not procurable either the elimination of all tree lighting or the arrangement of candles and decorations so that fire is practically impossible. Danger can be avoided without detracting in the least from the beauty of the display or the pleasure afforded the children from it.

When the tree has been secured one of the first things to do is to see that it is firmly planted so that children or others in their enthusiasm can not tip it over. Then in the work of decoration only those of a metallic or fireproof character should be used, such precaution even extending to decorations of cotton batting and tissue paper which should never be used for decorating as both are highly inflammable.

If proper care is observed throughout the state this year there will be no such fires reported. Make it a happy Christmas.

**TAKING THE MYSTERY OUT OF FIRE INSURANCE**

(Originally appearing under the title of "Giving a Thought to Fire Insurance," by John B. Morton, President National Board of Fire Underwriters, New York. Published in eight installments, the first of which appeared in the October issue of this bulletin.)

**CHAPTER III.**

*Principle of adequate coverage and partial losses. Eighty per cent insurance to value reasons for co-insurance or assured's participation. What service accomplishes.*

Rate making in fire insurance is based on the expectation, first, that most fires will be extinguished near the point of origin, (thus producing what we term "partial losses," or losses less than the insurance), and second, that all property will be insured for a fair proportion of its value.

Eighty per cent insurance to value, for instance, fairly meets everyday conditions. Furthermore, on an 80 per cent basis the owner has a personal interest of 20 per cent in his property's safety. This does not mean that he must carry 20 per cent of his own liability, for we will give him a still lower premium rate if he fills up the gap between 80 per cent and 100 per cent, but in consideration of a premium rate based on 80 per cent insurance, we do insist upon his contracting to take out policies for that agreed percentage of his values—or stand in the place of the insurance he does not provide. This is usually called "co-insurance," its technical name being "Reduced Rate Average Contribution Agreement," because if an owner carries less fire insurance than the average necessary to prevent rate discrimination between insureds, he must share in his own loss so as not to unbalance the experience (results) in his class.

Without an understanding of fire underwriting fundamentals, a man may reason this way: "I have a well built property worth about \$100,000 in a good neighborhood, under good fire protection and not likely to burn, (all of which was taken into consideration, by the way, in his schedule rate), so I will insure for \$5,000 which will cover my probable loss."

He has reckoned without his host, because we cannot issue our policies on that basis. With only \$5,000 fire insurance (without the "co-insurance" agreement), a \$5,000 fire would mean to him a property loss of only 5 per cent but to us an insurance loss of 100 per cent.

On the basis of the premium rate produced by schedule, he should have carried \$80,000 insurance and paid the requisite premium therefor. Then a \$5,000 fire loss would turn that "total" insurance loss into a "partial" loss. We rated that man's property on a basis as 100 is to 80 (5 to 4) and he wants us to assume a liability—at the same rate of premium—as 100 is to 5 (20 to 1). That would be a gamble pure and

simple, and fire underwriting is not a gamble but a calculation based on the law of average when spread over many thousands of separated properties and a period of years. We could secure no average on the basis I propose except at prohibitive rates.

Above all, "co-insurance" prevents rate discriminations—a cardinal principle. Were some men to carry only \$5,000 and others \$80,000 at the same rate of premium on practically identical risks, equal in value, it would result in unbalancing the whole "experience" on that class of risks by reducing the premiums and increasing the losses. This would be gross discrimination against all. To establish unfair rates for the prudent man who for his own protection provides the \$80,000 fire insurance. That is why the man who will not pay the premiums to meet the requirement of 80 per cent fire insurance to property value, must pay the penalty at the other end in a reduction in the amount he may collect when loss comes.

If you believe that "a system of fire insurance rating which does not discriminate between safe construction and unsafe construction, and between carefulness and negligence, is an injury to the community" (as one of the students of our business wrote many years ago when advocating schedule rating), we can demonstrate to you the fairness and the reasonableness and the desirability of fire insurance as today sold by the stock companies that are coordinated (not combined) to make your security greater, to make your property safer, to prevent your neighbor from damaging you, to make your community better, to make your life and the lives of your neighbors and of all other citizens safer, to make your city cleaner and healthier and more habitable and to help you solve your housing problems in saving your property from destruction by preventable fires and in paying honest losses promptly so that your destroyed houses may be rebuilt without needless delay.

This is a rather large order, but after all it represents an everyday function of stock fire insurance, in addition to indemnification for losses, though the underlying service functions so unobtrusively that the uninformed do not see it.

Stock fire insurance companies stand behind the business credit of the nation. Of all the insurance carriers their standard of solvency is the highest; their supervision the most rigid; their taxes paid to the State the largest, and their contracts the safest and the best.

### CHRISTMAS TREE NOT THE ONLY FIRE HAZARD.

Christmas trees and lighted candles, not to mention the usual decorative scheme of cotton batting, tissue paper and celluloid gee gaws are not the only holiday fire hazards.

We have with us about this time the careless merchant who fills his show windows with costly holiday goods—much of it highly inflammable and then decorates the whole with trimmings of tissue paper and cotton batting. In the arrangement of the lighting scheme, there is either an open gas jet or electric lights are carelessly strung about. Similar carelessness extends to other interior displays and decorations.

We also have with us about this time and until the close of the holidays the usual line of entertainments given in homes, churches, schools and stores. The decorations are usually the product of home talent and are generally of the cheapest and flimsiest character obtainable. Japanese lanterns predominate and there is always a Santa Claus. Safety is generally secondary.

That many and disastrous fires result from such is not to be wondered at and that education has not put such practices out of business is something to astonish. The conditions complained of, however, are being reduced to the minimum. True in the country districts decorative and lighting effects are trifle more crude than those obtainable in the population centers, but they are learning and the Christmas fire records for Minnesota show it.

Make this Christmas a Safety First Christmas.

### BARBER SHOP STOVE

#### CAUSES \$30,000 FIRE

Adrian, Minn., Nov. 26.—Fire originating from an oil stove in a barber shop, destroyed four buildings in the business section, causing a loss of \$30,000 here today.

A broken pump at the water station hampered firemen in fighting the fire and assistance was summoned from Luverne and Worthington. However, the firemen were further hampered in fighting the fire, for it was found when the neighboring firemen arrived that the hose of none of these departments would connect on account of the variance in the size of the hose fittings and each department had to do what it could independent of the others. Had these towns each been fitted with the national standard coupling, which would have enabled them to unite their forces, it would have saved the loss of much time and the loss on property would have been much less.

It is hoped that these towns will lose no time in adopting the national standard thread, which can be done at a very low cost, and that other towns in the state will profit through the experience of these three towns and decide to standardize their fittings without delay.

## "GOOD NIGHT!"

About the time we pass this salutation, bolt the doors, raise the bedroom window, load up the furnace, put out the cat into the cold starlit world and crawl into the warm "hay"—about this time a lot of houses just like yours mysteriously catch fire. Lying there in the warm "hay" you wonder how. Rubbish all cleaned up and burned; hot ashes put in the galvanized can; electricity turned off; matches all in tin boxes and nobody awake to play with them; furnace closed; watchman on his beat. No, YOUR house couldn't catch fire TONIGHT. Are you sure?

This is a pretty cold night. Hear the woodwork snap as the temperature goes down. But there is plenty of coal in the furnace to last till morning—PLenty of coal; quite a good deal, in fact. There it goes again, that cracking. The house is shrinking with the cold, but the chimney will grow bigger with heat for awhile until the fire dies down again. Think that over; the house shrinks, the chimney expands. Suppose, at the place where the chimney goes through the roof the rafters should gradually loosen one brick by squirming. Suppose the fire in the chimney should find that crack and then find the rafters and then find you?

Shucks! This is an old house. A lot of cold nights have come to it before. Yes, but the older a chimney gets the more effect the sulphurous flue gases have on its mortar; the more the mortar softens and bulges and drops out from between the bricks. Half the houses that burn catch fire from their own chimneys. You know that. Maybe this very night—Confound it! Here you have been in bed an hour and are wider awake than ever!

But if that chimney of yours was properly lined with fire clay flue lining that had no cracks and needed no mortar—just a square, smooth pipe of indestructible, fireproof fire clay that absolutely insulated the fire from the woodwork of the house, improved the draught, prevented soot, saved coal and all for a very few dollars, then you could go to bed and forget it; and you'd know what you were talking about when you said

## "GOOD NIGHT!"

#### THAWING WATER PIPES.

Never use an open flame to thaw a water pipe. Use hot water and rags—never a blow torch, lamp or other light. The best way after all is to let the plumber do it. Nearly all sink drains and pumps can be "let off" at night. Study the equipment you have and how to handle it.

### SOME HOLIDAY SUGGESTIONS.

Do not take foolish risks.

Try to have a good time, but do not endanger life and property in doing so.

Remember safety first.

Do not use lighted candles on Christmas trees; get the electric kind, carefully wired.

If candles are used, permit elders only to light them and see that they are not in close proximity to anything inflammable.

Keep all matches away from the children.

Fire proof all flimsy decorations if possible and do not use cotton batting for snow effects or tissue paper for decorative purposes under any conditions.

For snow effects use mineral wool.

If there are any open gas jets see that they are protected and that there are no drafts while the tree is lighted.

Have a fire extinguisher of some sort handy.

Remove all Christmas trees within two or three days. Some persons allow them to remain until New Years. This is wrong. There is nothing more inflammable than dry Christmas greens.

Fire once started in a room decorated for Christmas is likely to spread with terrible swiftness.

Every year the papers tell of many homes destroyed and many people burned to death as the result of Christmas fires.

Make this a safety first Christmas.

### TEACHERS ESCAPE AS SCHOOL HOME BURNS

The lives of two school teachers, Miss Cora Wassberg and Miss Sadie Oslund, were endangered when fire broke out Sunday night in School No. 72, near Embarrass, according to a report received yesterday by C. H. Barnes, county superintendent of schools.

The teachers have living quarters in the school. They returned from their Thanksgiving vacation and in an attempt to heat the building, the flues became overheated, igniting the woodwork inside. The teachers awoke before the fire gained much headway and had succeeded in arousing nearby farmers, who extinguished the fire. The interior of the building was damaged.

Neighbors are taking care of the teachers. George Bakalyer, deputy superintendent, left yesterday for Embarrass to find temporary quarters for the school. The building was fully covered by insurance.—Duluth News-Tribune.

The use of school buildings for dormitory purposes has long been discouraged by the State Fire Marshal's department. In many of the Northern counties school buildings have been equipped with living quarters for the teachers and several fires growing out of this domestic use of the school structures have resulted. Most of such buildings are distant from adequate fire protection and there is constant danger to the occupants.

**OUR MOUNTING FIRE LOSSES.**

If the August record of fire losses was looked upon as a large one it pales into insignificance when compared with that of September. Last month ran ahead of all the previous months of 1921, except January and July. The losses for these two months were respectively \$35,826,950 and \$32,181,800, while those for September were \$31,176,100. The previous two years' losses for the month of September were: 1919, \$29,083,500, and 1920, \$25,630,050. The total so far for 1921 has reached the staggering total of \$259,994,650, over twenty-six million dollars more than the nine months of 1920, and over fifty-five million in excess of the same period in 1919. The August, 1921, losses amounted to \$28,964,450.

As regards the number of fires which caused losses of \$10,000 and over, while not quite reaching the number in July, they exceed those of August by 31. The figures are: July, 1921, 380 fires; August, 339, and September, 370. The fires of August are divided as follows: \$200,000 and over, 23; \$100,000 to \$200,000, 43; \$75,000 to \$100,000, 15; \$50,000 to \$75,000, 27; \$40,000 to \$50,000, 28; \$30,000 to \$40,000, 23; \$20,000 to \$30,000, 46; and \$10,000 to \$20,000, 193. A rather striking feature of this record is the unusual number of fires ranging in loss from ten to twenty thousand dollars. These are in excess of August by twenty-three and of July by sixty-five fires.

The number of fires which equalled or exceeded \$200,000 were, on the other hand, rather light as compared with the two previous months, taking into consideration the heavy losses of last month. In September there were 23 such fires, while in August there were 22, and in July 30. Last month's heavy value fires are to be divided as follows: \$200,000 and less than \$300,000, nine; \$300,000, four; \$400,000, five; \$500,000, three; \$900,000, one, and the largest of all, which did much to swell the total of the month, the second fire in the Atlantic Refining Company's big oil plant at Point Breeze, Pa., which was estimated to have destroyed some six millions of dollars in property.

The month was also signalized by two unusually heavy disasters abroad, that of the burning of the great au Printemps department store in Paris, France, and the terrible catastrophe at Oppau, Germany.

It is rather grim commentary that the thirty days preceding Fire Prevention Day this year should almost have established a record for fire losses. It is to be hoped the same period following that day set apart to teach the people to conserve through the exercise of fire precautions will be signalized by a falling off in the losses that are so unnecessary.

**Make It a Safety First Christmas**

## Xmas and the Fire Hazard

Christmas again draws near and with it the ever present fire hazard—a hazard replete with memories of suffering, of frightful deaths and loss of property.

This year thousands will celebrate the birth of the Redeemer in the old fashioned way in which the Christmas tree with its flimsy decorations and festoons of lighted toy candles will be the chief attraction.

Around the lighted tree little tots will dance with glee and older heads watch their antics with satisfaction and contentment.

A possible fire with its frightful consequences will be furthest from their thoughts. Caution will be forgotten in the knowledge that everybody is having a good time. Nothing occurred to mar the occasion last Christmas and the Christmas before and it is to be presumed that the finish will be just as happy a one this Christmas.

It is the old story.

That the undertaker instead of Santa Claus will be the chief guest of the day or that the doctor will have to be called in aid of a child suffering from burns instead of for one who has eaten glutonously of the goodies on hand is not an over-drawn picture. It has happened and it may happen again.

### Watch Gas Flame.

Wreaths and boughs of evergreen, holly or mistletoe should not be hung on walls where gas or flame can possibly reach them, nor where the heat of steam pipes and stoves, grates, etc., can play upon them for any length of time.

Candles on mantles or on dressing tables, etc., should be so arranged that they can neither fire draperies or decorations.

As soon after Christmas as possible, all natural wreaths, trees and boughs should be removed from the house and carted away. The natural

### SHOW WINDOW SUGGESTIONS.

#### DON'T—

Install electric wiring in a hazardous manner.

Install lamps of any type unless properly protected.

Use lamp cord. (Use reinforced cord.)

Use open switches.

Exceed the carrying capacity of the wire.

Install wire with staples, tacks or nails.

Take it for granted that if the lights burn everything is all right.

Place inflammable material on wires or equipment.

Trust to luck.

Save the small expense for correct electrical installation and have a larger one for rebuilding.

foliage rapidly dries up and is highly inflammable.

Watch the kiddies carefully at Christmas season. The blaze of new lights and the excitement incident to the period may lead them to try "experiments" that will lead to misery and woe.

The custom of keeping candles in windows is a pretty one, and all right so long as the tapers are under constant supervision, but the trouble is that whole families go to church, to school and church entertainments, etc., leaving the candles lighted. Such absence of foresight has led to numerous fires as the cheap, modern paraffin candle is treacherous, and in league with vagrant drafts that steal through cracks and crannies and bend the willing flame into curtains and decorations.

### That Extra Stove.

Christmas weather as a rule calls for extra fires as the house is filled with home-comers. Here enters another hazard, that of the unwatched fire. Grates in rooms long unused are pressed into service and piled high with fuel. Chimneys long neglected have become cracked and clogged with debris. No one, unless he be ill, stays in his room on Christmas, but mingles with the gay house crowd. In the meantime the unwatched grate or stove gets in its nefarious work. Bear in mind that household routine breaks down under the intensive barrage of Christmas excitement. Clean the chimney for Santa Claus! Watch your lights and fires. Keep a constant eye on the kiddies, but let them enjoy every moment of the day—they won't if the house takes fire.

If electrical effects are used, have them installed by an expert. See that the wiring is safe and not used for a clothes lines or a support for decorations.

### ONCE MORE THE LANTERN.

A lighted lantern striking against a door was responsible for a \$2,000 barn fire near Litchfield. The owner in entering the building struck the lamp against an iron spring, breaking it and the oil caught fire. The building was a total loss.

### ALLEGED FIREBUG NABBED.

Through the efforts of the State Fire Marshal's department, Jerry Hines, manager of a movie theatre at Pipestone, was arrested in Denver, Col., and brought to Pipestone, charged with setting fire to the theatre building of which he was proprietor. He is now awaiting grand jury investigation.

It is alleged three attempts were made to fire the theatre which is an \$80,000 structure. Fortunately the fire was located in time to prevent a dangerous and costly conflagration. Hines gave the department a merry chase before being apprehended.

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FEB 9 1922

## STATE OF MINNESOTA

# FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 34

Saint Paul

January 15, 1922

## Fire and Its Toll; Some Good Suggestions

BY CHAS. A. MAIN

Last year the people of this country lost more money and more lives through fire than in any previous year of our history. The property loss far exceeded our usual annual figure of \$350,000,000; the loss of life was over fifteen thousand; and there were about eighteen thousand more who were seriously injured. Eighty-two per cent of the dead and injured were mothers and children under school age; which means that almost all of them must have been in their own homes. If the records in Minneapolis and St. Paul, for example, show twelve fires, we know without looking that ten of them are in dwellings. It is a rare day when this proportion is not held. Why? Because even a man who is careful to obtain fire protection for his place of business is often just the reverse about his home. Even when a man builds just the kind of home he has wanted, and dreamed about, he usually builds it (to burn). The average house is a pretty good imitation, in its construction, of the ordinary stove. It has flues and drafts. The flues are found in the stairs, and the open places in the side walls, which often have an unbroken air space from the cellar to the roof. Next to this exposure, the largest cause is defective flues and chimneys. The builder can save a few dollars by having his chimney walls four inches thick, a "half brick" chimney as it is called, with the chance of its causing the loss of his home and perhaps a loss of life as well. What he should insist upon is an eight-inch chimney lined with burnt clay pipe. He can demand that the chimney be built independently. A chimney ought to stand on its own foundation. If it rests on a part of the house support, when the house settles the chimney walls open

and cracks appear, letting sparks out in concealed spaces. See that your stoves, furnace, and heating pipes do not rest on wood nor touch wood. There was a fire loss of over twenty-five million dollars last year in the United States due to carelessness in regard to chimneys and heating apparatus. Don't build wooden mantels which extend so far out over your fireplace and so close to the opening that the heat blisters the wood. Wooden ceilings and paneled wooden walls are beautiful, but in case of fire they increase the danger and you should exercise care in regard to them. Usually oil dressings are used to keep such ceilings and walls in condition. In time the wood becomes saturated with oil and furnishes as good material for a fire as anyone can imagine. For the same reason that they are fire-resisting, wire lath are safer than wooden lath. You would hardly believe that over three million dollars worth of property was burned in this country last year because of open fires and the careless disposal of ashes. As the open fires are recognized as dangerous, and for that reason are more carefully watched, they cause fewer fires than ash disposal. Hot ashes are commonly placed in wooden boxes. It looks as if the carelessness in this act were so flagrant as hardly to be worth talking about. But walk the streets of any city which does not have an anti-wooden ash box ordinance and see how few people have the proper metal cans for ashes. Placed in wooden boxes in an outhouse or in the cellar, hot ashes may smolder for hours, and then suddenly cause a blaze, which is well started before any one knows anything about it.

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

SAINT PAUL, JAN. 15, 1922

The Bulletin will be mailed to any address regularly upon request

**1922 AND THE FIRE DEPARTMENT.**

That the present year will see great changes in the fire departments of this country and Canada no one can doubt. Every indication points to an irresistible tendency to advance in the matter of efficiency. One reason for this is the universal desire among chiefs whose departments have not already attained that condition for complete motorization. The combined economy and dependability of the motor apparatus is so apparent that the majority of fire departments will strain every nerve to adopt this type of fire fighter before the year is out.

Another significant tendency recognizes the fact that the fire department is not alone a fire fighting machine. It also has the important function of Fire Prevention. That chiefs throughout the land now recognize this principle is evidenced by the trend of papers read at various state conventions. More than seventy-five per cent of the subjects treated at these meetings have been of a Fire Prevention nature and this is a healthy condition.

The building of fire-resistant structures has done much and will do more toward reducing the nation's fire waste, than any other one thing. The formation of proper building codes and their rigid enforcement both as regards the construction of new buildings and the proper protection and maintenance of old ones will help greatly to accomplish this desired result. Another activity of the fire department along this line that is becoming more and more general is that of careful inspection by chiefs and men detailed for this purpose to watch for violations of fire prevention principles and the provisions of the building and fire prevention codes.

Altogether from indications the promises for 1922 are those of increased efficiency from both a fire prevention and a fire fighting standpoint and progress toward the goal of perfection to which every wide awake fire chief is pressing forward.—Fire and Water Engineering.

**TAKING THE MYSTERY OUT OF FIRE INSURANCE**

(Originally appearing under the title of "Giving a Thought to Fire Insurance," by John B. Morton, President National Board of Fire Underwriters, New York. Published in eight installments, the first of which appeared in the October issue of this bulletin.)

**CHAPTER IV.**

*Public regulation by forty eight states.  
Liabilities to protect not yet earned premiums.*

*Examinations by the National Convention of Insurance Commissioners.*

So closely are stock fire insurance companies publicly regulated and supervised by the authorities of all the forty-eight States that little we do escapes them. All is open to the public in sworn returns, printed in State reports. The worst is always set out in cold type. New York and Massachusetts were the first states to establish public supervision. Now all states have officials, usually called "superintendents of insurance" or "commissioners of insurance," to enforce their insurance laws.

Our offices, records, bookkeeping and all transactions are open to the scrutiny of any and all of the commissioners all the time, and at our expense, of course. Only a few years ago examinations of insurance companies were very burdensome, as well as expensive, and furthermore interfered with office routine and the bookkeeping that is such an essential part of our business. Here the National Convention of Insurance Commissioners has co-operated to bring order out of chaos by instituting what is known as "Convention Examinations," or examination by several states at one time the results of which are generally accepted by all other states.

Common sense must govern fire underwriting as it must govern every other business. It is easy enough for a merchant to say that he took in \$100,000 last year and that as he paid out only \$50,000 he made \$50,000 profit. Men often go to the wall on that formula and yet it is the one most frequently misapplied to the business of stock fire insurance companies. In other words, your merchant who is not deceiving himself takes an account of stock by making an inventory and finds out whether he has made a real profit or whether he has, after all, only a trade balance upon which there may be profit or loss in the future.

Stock fire insurance companies accept thousands of premiums during a given month covering policies issued to terminate in varying periods of time—say in one, three and five years to make it simpler, and indeed these periods do embrace the bulk of our acceptances. Now we do not at once "earn" all these premiums received. The first month we earn only one-twelfth of the one year premiums, one thirty-sixth of the three year premiums and one-sixtieth of the five year premiums. The remainder we are required by law to

set aside as a "liability for unearned premiums."

In other words the premium you paid is ours because we have issued against it our obligations (policies to indemnify you against loss by fire) but we cannot use all these premiums in our business for we have no "earned" them as yet, though our liability continues of course until the premiums are all earned. To offset our expenses which we incur in handling, inspecting, passing upon and recording all these premiums of yours which come to us from agent and brokers—expenses that are very heavy—we draw on our surplus funds contributed by stockholders secured from appreciated investments, received as interest or gained from our business transactions—surplus maintained for your greater protection and to give you greater confidence in our business integrity, and financial responsibility.

This process is repeated over and over again, month by month and year by year, liabilities being established against our new premiums as received, and the "earned" premium coming out of the liability account with the methodical approach of the termination (we call it "expiration") of the various policies. All the while we are discharging the losses against contracts (policies) outstanding so that what is left in the course of time—and believe me it is soon enough for such a hazardous business—belongs to us. It is at last "earned."

It is my hope that I have been able to explain this rather intricate subject of the earned and the not yet earned (we call them "unearned" premiums that have been so much discussed of late.

Many years ago when laws were first introduced to establish liabilities for not yet earned premiums some companies were handling their business on the income and outgo basis—as was the merchant I described to you who was not taking an inventory—and were headed for inevitable failure. Today, for your safety, the law is rigidly applied to all stock fire insurance companies and failures are negligible.

What with the proper handling of this particular account—and it is one of the heavy expenses of our business—so it can be checked readily by examining commissioners to see that it satisfies the rigid requirements of law; what with keeping our funds invested so as to observe the laws of all the States and what with all the other requirements of law we are called upon to meet, while it could not be held that we are supervised too much, it is fair to say we are supervised amply for your protection and our own good.

## Deputy Uses Crude Phone To "Get Goods" on Suspect

Working under cover, with the aid of a crude voice transmitter, H. A. Winslow, a deputy state fire inspector posed as a trapper, won the confidence of several homesteaders of the northwoods and obtained evidence instrumental in establishing a case for the state against Robert Rutherford, a Vermilion Lake hotel keeper, on trial in district court on a charge of arson.

On the stand Winslow stated that through the telephone constructed of wires, a wash boiler cover and lard can, he heard Rutherford say to Joe Noggle, also a homesteader, in whose cabin Winslow resided, to "keep your mouth shut—put up a bold front and no one will suspect us."

Winslow was detailed to the north woods, to solve the mysterious burn-

ing of Frank Long's cabin. He won the confidence of Noggle and realizing that this woodsman knew something of the fire made his residence in Noggle's cabin. Noggle helped Winslow construct the crude telephone through the rafters of his cabin and then outside to the side of the house where a lard can served as a receiver, according to Winslow.

Oct. 13 at 1:08 p. m., Rutherford is alleged to have approached the cabin. He carried a high-powered rifle. Winslow, concealed in the woods, says he watched the newcomer's movements. Rutherford sneaked behind some brush watching the cabin to see if Winslow was about, hid his rifle under a log, drew a revolver, looked it over and then entered.

cost of \$16,395. Valuable assistance was rendered this year by the Townships and Lumber companies.

Forest fires are still a serious problem but the work of putting the subject before the public has yielded good results.—Northwest Insurance.

### THE FIRST FIRE ENGINES.

The first real fire engines were used in 1633 at a big fire on London Bridge. The first fire hose was invented by the two Vander Heydes in 1672. One of the earliest engines used consisted of a tank drawn by two horses which threw a stream an inch in diameter to a height of eight feet. An improved engine was invented in 1721 by Newsham of London and the first engine used in the United States was made by Newsham. The first steam fire engine was invented by John Braithwaite of London in 1829.

Fire alarms came into use in medieval times. It was the custom in many of the towns to have a watchman stationed on a high building whose duty it was to look for fires. As soon as he saw one, he gave warning by blowing a horn, firing a gun or ringing a bell.

### SCHOOL FIRES.

In the United States and Canada we have approximately five school fires every day. Many of these fires endanger the lives of our children. The best way to insure safety to life for school children is to secure maximum fire prevention by the construction of school buildings that will not burn, and by safeguarding existing structures so as to make them fire safe.—Franklin H. Wentworth, Secretary National Fire Protection Association.

### FIRE LOSS OF CITY

#### CUT, RINGER REPORTS

Although there were 39 more fire alarms reported during 1921 than in the previous year, Minneapolis' fire losses are \$112,598 less, reports Charles W. Ringer, fire chief. There were 3,389 fires reported this year, against 3,360 in 1920. Losses for this year are placed at \$1,614,822.46, against \$1,727,420.46 last year.

False alarms sounded this year numbered 875, against 758 in 1920. The heaviest losses were suffered in the loop, the report shows.

### FIRE AT EAST GRAND FORKS.

EAST GRAND FORKS, MINN.—Fire of unknown origin today destroyed the C. S. Reed building on the principal street, causing a \$41,000 loss.

The building was occupied by the Reed pool hall and the John Raymond garage.

In the property destroyed were twenty-seven automobiles belonging to various Grand Forks and East Grand Forks business men.

### THE CARELESS SMOKER.

By Harris A. Reynolds.

(Apologies to Kipling.)

A fool there was and his pipe he lit  
(Even as you and I)  
On a forest trail where the leaves  
were fit  
To become ablaze from the smallest  
bit  
Of spark—and the fool he furnished  
it.

The day was windy and dry.  
The forest was burned to its very  
roots.

Even beneath the ground,  
With the flowers, the birds and the  
poor dumb brutes.  
Old hoary oaks, and the tender  
shoots  
Which might have made logs but for  
such galoots

Allowed to wander around.  
The lumberjack has now passed on,  
His payday comes no more  
And the screech owls haunt the camp  
at dawn  
Where the cook's tin pan woke the  
men of brawn  
But the mill is silent, the trees are  
gone.

The soil and the forest floor.  
A deadly sight are those hills of  
rocks  
Which once were beds of green;  
No hope for the human, no food for  
the blocks,  
The floods must be held by expensive  
locks  
And the harbor is silted to the  
docks—

The ships no more are seen.  
But the fool smokes on in the forest  
still,

Leaves camp fires burning too.  
While the patient public pays the  
bill  
And the Nation's wealth is destroyed  
for nil.  
If the law doesn't get him, Old Satan  
will

When his smoking days are  
through.

—From the "Open Road."

Total ..... 882  
It is notable that lightning is the cause of more fires this year than any other previous year.

These fires burning over an area of 111,593 acres destroyed mature and immature timber (young growth), buildings, hay, and other property valued at \$258,724.

In co-operation with the State Forest Service, private companies and individuals employed 6,324 men at

# FIRE MARSHAL BULLETIN

## An Achievement

One hundred and two alarms with a total damage to property of only \$3,955 for a city of 16,000 in one year is a record to be proud of. This is the experience of Rochester, Minnesota, for the year ending December 31, 1921.

It is an example of what may be accomplished through the practice of fire prevention methods for William Cudmore, Chief of the Rochester Fire Department, is a staunch believer in fire prevention. He works on the theory that the best way to fight fire is to fight it before it starts. He preaches fire prevention and compels the citizens of Rochester to practice it.

Chief Cudmore has inaugurated a system of inspection service that is most effective. Periodical inspections are made by uniformed men and where conditions that might result in fire are found orders are issued calling for their correction and the chief sees to it that such orders are complied with or he knows the reason why. This inspection service, however, is not all that has placed the Rochester fire department in a class by itself. This practice has contributed largely it is true, possibly better than fifty per cent for fires seldom start in clean places, neither do they spread rapidly where neatness and order prevail and fuel for flames is lacking, but Rochester also has a well manned and well equipped department. The apparatus is modern and it is kept up to the minute. The men seem to take unusual pride in keeping headquarters neat and tidy in appearance, which they have made cheerfully attractive.

This is mentioned for the reason that it is one of the little things that reflects the morale of the department. Pleasant surroundings help make men contented which is one of the factors that make for efficiency.

The good work of the department in extinguishing the few fires that have started and in keeping the loss down to a per capita of 24.7 cents is proof that the department is efficient on the fire ground as well as in conducting inspections.

The methods of the department have won for it the respect of the business men who co-operate with the chief and his men in an effort to reduce the fire hazard to the minimum. The results spell a successful administration. The department is to be congratulated.

### UNIQUE PUNISHMENT.

A boy, 14 years of age, who turned in a false fire alarm, was sentenced by the Juvenile Court of Houston, Texas, to write the following sentence, 1,000 times: "I realize that it is against the law to turn in a false alarm and understand why. It cost the city a large sum every time fire engines respond to a call. Moreover, every time there is danger that someone may be hurt."

### ST. PAUL FIRE LOSS

#### INCREASED IN 1921

St. Paul's fire loss during 1921 amounted to \$1,361,776.92, an increase over 1920 of \$45,013.22, according to estimates given out by the St. Paul Fire Insurance patrol.

The loss in 1920, according to the report, totaled \$1,317,763.70. The loss the past year, the figures show, was larger than a year ago despite the fact there were fewer alarms turned in for 1921. The past year there were 2,186 alarms, compared with 2,259 during 1920.

The fire insurance patrol answered 852 of these alarms. One hundred and twenty-eight alarms were false, according to the report.

The losses, with an exception of a few, represent the actual amount paid by insurance companies.

The R. E. Cobb Co., wholesale produce dealers, suffered the heaviest loss of the year, according to the report, amounting to \$212,942.18, on building, fixtures and contents.

### SANE FOURTH

#### FOR MINNEAPOLIS

Minneapolis will have a safe and sane Fourth of July in 1922, if the city council heeds advice of fire department heads.

Fire Marshal A. W. Price has asked the council committee on ordinances and legislation, for an amendment to the present ordinance prohibiting storing or sale of fireworks in the city.

#### SUES CITY FOR \$10,000.

Last year as a result of fireworks sale he said the fire department answered 35 alarms and the city now is defendant in a damage suit for \$10,000 resulting from blinding of a citizen by a firecracker explosion.

Ald. Josiah Chase will advocate the proposed measure on the floor of the council. St. Paul now has such an ordinance. It was proposed a year ago, but dealers and wholesalers who had big stocks on hand used their influence and action was postponed.

### BUILDINGS CONDEMNED DURING THE MONTHS OF OCTOBER, NOVEMBER AND DECEMBER

#### Owner.

A. Dahl,  
H. E. Deathe,  
Margherita Ferraro,  
Charles P. Ring,  
Thorwald Hansen,  
Edmund W. Wallace,  
Margaret Mullane,  
Albert S. Nedea,

Location.	Kind of Bldg.
St. Paul,	
253 E. University Ave.,	Dwelling
252 E. University Ave.,	Dwelling
281 E. University Ave.,	Dwelling
182 Goodrich Ave.,	Barn
1557 University Ave.,	Store
183 Ramsey Street,	Vacant Bldg.
654-56 Bedford St.,	Livery Barn
637 L'Orient Street,	House, Barn and Shed

#### Minneapolis,

Church of Immaculate Conception,  
Northland Pine Co.,  
George H. Leef,  
Cedar Lake Ice Co.,

166 Western Ave.,	Hall
	Mill
	Blksmith Shop
	Ice House

#### Duluth,

Patrick Hammel, W. M. Pearce,  
and Elizabeth Pearce,  
Joseph Gund,  
Olive Weld McKee,  
Olive Weld McKee,  
Wm. Leary,  
E. M. Sabin,  
Henry Kerns,  
Anna Schwartz,  
F. M. Wright,  
Chas. J. Metzroth,

14 1/2 E. 5th St.,	Vacant Bldg.
Breckenridge,	Ice House
Faribault,	Barn
Faribault,	Barn
Faribault,	Barn
Hartland,	Store
Sauk Rapids,	Vacant Bldg.
St. Cloud,	Barn
St. Cloud,	Planing Mill
425 St. Germain St.,	
St. Cloud,	
Swanville,	Store
Swanville,	Blksmith Shop

F. E. Wilmot,  
W. H. Cox,

#### FIRE LOSSES.

##### For the Month of November, 1921.

No. of Bldgs. and Fires	Value of Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
Minneapolis . . . . . 88	\$2,401,400	\$253,273	\$2,027,750
St. Paul . . . . . 42	630,825	58,670	146,750
Duluth . . . . . 21	314,835	15,212	176,500
Outside . . . . . 128	1,510,035	330,998	734,683
Total . . . . . 279	\$4,857,095	\$658,153	\$3,085,683

#### FIRE LOSSES.

##### For the Month of November, 1920.

No. of Bldgs. and Fires	Value of Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
Minneapolis . . . . . 78	\$2,217,600	\$175,420	\$1,745,450
St. Paul . . . . . 31	1,064,550	65,785	338,000
Duluth . . . . . 7	86,300	1,475	53,100
Outside . . . . . 111	600,610	339,897	279,557
Total . . . . . 227	\$3,969,060	\$582,577	\$2,416,107

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UNIVERSITY OF MINNESOTA

JUL 10 1922

# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 35

Saint Paul

February 15, 1922

## Fire Protection, Fire Extinguishing, First Aid and Rescue Work as It Pertains to Industrial Plants

The most important problem confronting the public today is the high cost of living. The machinery of federal, state and municipal government is being set into motion to remedy this condition. Investigations of all kinds are being conducted for the purpose of discovering the causes of the situation and suggesting effective relief measures.

All this is well enough and will no doubt produce some highly beneficial results, but in the midst of this agitation the people are overlooking one highly important factor and that is their own indifference and neglect are responsible for a very large part of the high cost of living. Waste is the greatest enemy of thrift and economy. Fire is the commonest and costliest form of waste and carefully collected statistics prove that more than 90% of the fires are due to carelessness that was easily preventable.

Newspaper accounts of conflagrations are accustomed to indicate that the loss is fully covered by insurance. We take it for granted that this means there is complete compensation for all waste and destruction caused by the fire. There is no greater fallacy, the losses resulting from fire extend into so many different channels that they can never be fully covered by insurance.

Insurance at the most can be collected only for the goods and property actually destroyed. Where the fire has been in a shop or industrial plant no matter how fully the buildings and contents may be insured there is no adequate compensation to that firm for the time lost from production while seeking a new location for rebuilding.

There is no insurance on the un-filled business, for orders which may go to a rival concern and mean a

permanent loss of trade. There is no insurance for the loss of employment suffered by the employees, many of whom may be compelled temporarily at least to accept employment in other branches of industry at lower wages. There is no insurance for the loss of production suffered by the public as a result of that plant being put out of operation. Anything which reduces production and makes commodities scarce and necessarily influences higher prices. Statistics show in regard to shop and factory fires that in the vast majority of cases they occur in a period of two to three hours immediately following the departure of the employees from the factory. It means that in the rush at quitting time there has been carelessness, someone forgot to shut a firedoor. Someone failed to turn off some electric switches. Someone neglected to remove the trash or inflammable rubbish. Some hurrying worker ignored the rules, lighted his pipe or cigarette before he passed out of the building and carelessly threw the smouldering match on the floor. It is the history of almost every bad fire—indifference and carelessness and the public pays the cost.

We are indeed fortunate when to the financial loss due to such negligence is not added an appalling toll of human life. Let us not lose sight of the fact that aside from the human and emotional phase of such a tragedy there is an important economic aspect because the death of every worker or future worker means decreased production and consequent higher prices.

There are many other ways in which the public is made to feel the burden which preventable waste and carelessness add to the high cost of living. The property destroyed by fire is taken off the tax duplicate.

The cost of government is not thereby decreased, however, and the amount thus taken off is merely distributed amongst the other taxpayers. One of the heaviest charges borne by the taxpayer is the cost of the municipal fire department, because of the indifference and carelessness in regard to fire prevention now existing. It is necessary to maintain expensive municipal fire departments. The greater the fire hazards in any city the larger are the fire fighting forces and the equipment that will be needed.

The owner who permits his shop or building to become a menace to safety of adjoining property is increasing the tax rate of all other property holders in the city, but it does not stop there. It also increases the insurance rates of every policyholder in that city or district.

By providing individual protection such as automatic sprinklers and fire walls and by maintaining and organizing your own fire fighting force at your plant both the fire department maintenance cost and the insurance rates could be materially reduced.

Such individual protection not only eases the burden of the public but directly benefits the individual installing it.

There is a large element of waste resulting from dirt. What is dirt? The most practical definition is that dirt is matter out of place. Anything out of place interferes with efficiency and any interference with the efficiency of production means an economic loss. There is no excuse for dirt in any industry. Dirt can do no good in any event, but it may cause great harm. It causes the machinery and equipment to deteriorate. It deadens the spirit of the

(Continued on page three)

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire  
Prevention and Fire Protection

SAINT PAUL, FEB. 15, 1922

The Bulletin will be mailed to any address  
regularly upon request

**THE SPRING CLEAN-UP.**

As has been the custom for several years, the spring clean-up campaign will be carried on during the month of May. The campaign will undoubtedly be officially opened on May 1 and continue over a period of several days. This, however, will be left largely to the discrimination of the town or committee putting on the campaign. The date for the official opening will be announced in the March issue of the bulletin.

The object of the campaign is to reduce the fire hazard that has been increased during the winter months through the accumulation of rubbish and other unnecessary trash. Its removal not only improves conditions from the fire hazard standpoint, but also from the health standpoint and adds to the appearance of the surroundings of a home or place of business. Rubbish is a serious menace to life and property and responsible for many fires, especially in the home.

In setting aside a certain period at this time to be observed in cleaning up, the idea uppermost is not only to correct defective conditions that exist, but also to impress upon the minds of the public the importance of making every day a fire prevention day and not permitting conditions to exist at any time that are merely an open invitation for fire to visit the premises. To this end the co-operation of every man, woman and child is solicited. The clergy, city officials, civic and social clubs and school children, especially the boy and girl scout organizations can lend most effective assistance.

Town officials naturally should take the initiative. The success or failure of the movement it might be said depends to a large extent on them.

Town officials by the issuance of proclamations, the distribution of proper literature and the solicitation of help on the part of every man, woman and child under their jurisdiction can make the week all that its name implies and at the same time do much toward making the town a better one in which to live. It affords a splendid opportunity for the local fire prevention committee

(Continued on page four)

**TAKING THE MYSTERY OUT OF FIRE INSURANCE**

*(Originally appearing under the title of "Giving a Thought to Fire Insurance," by John B. Morton, President National Board of Fire Underwriters, New York. Published in eight installments, the first of which appeared in the October issue of this bulletin.)*

**CHAPTER V.**

*Fair rates make sound indemnity—coordination not a trust or monopoly.*

*Costs reduced and discrimination prevented.*

*Voluntary agreement to restrict profits.*

Not in a boastful spirit, but with deep satisfaction it may be stated, I believe, that no business has played a larger or more generous part in the economic development of the United States than stock fire insurance, and ever since coordination for the purpose of rating was accorded public approval and given widespread legislative endorsement, achievements in Safeguarding America Against Fire have been signally successful.

It is to the public's interest to pay a fair rate for fire insurance and to get the best possible indemnity—that which is as nearly certain as human foresight can make it. Poor or uncertain insurance is worse than none at all. This series, therefore, has been specific in its references to "stock" fire insurance companies, which are those with paid-in capital stock, adequate reserves (required by the laws of the several states), and surplus accumulations held to make your indemnity the more certain—the companies that are regulated by the most rigid laws, whose standards of solvency are the highest and whose measure of security for your protection under all conditions is the greatest.

In introducing this sketch mention was made of the marked development that has followed public approval of coordinated effort. The modern system of fire insurance rating, into which the loss experience on 95 per cent of the insured property of the country is now gradually being injected, can in no sense be classed as a trust or a monopoly. Our business, today, is conducted to prevent discrimination between insureds, to keep down the cost of the service to the public and at the same time to offer immediate inducements in lower rates to those who safeguard their property from fire, thus giving them a voice in making their own rates.

In the old days all rating was done by officers and field representatives of the companies themselves, but in later years the work has passed into the hands of trained men, experts, independent in a large measure from both stock companies and agents, because of the intense competition in the business between the various companies and their representatives in every hamlet, village and city in the United States. No other result could be expected.

Just how rating is drifting away

from direct company control is told in the report of the Illinois Legislative Commission appointed to investigate the whole subject. "The work of constructing basis schedules," the report says, "instead of being performed by secret conclaves of underwriters themselves under star chamber methods, as the public has been led to believe, appears from our testimony to have passed out of their hands almost entirely into the hands of trained experts. The testimony shows that fire companies have little or nothing to do with the construction of schedules. The schedule-maker in fire insurance today occupies a position analogous to that of the actuary in life insurance. He is expected to deal with fire hazards by analysis and classifications of elementary parts."

Coordination among companies to reduce costs and prevent discriminations between insureds; schedule rating, subject to basic review by the state if desired; and adequate insurance to value, a point touched upon briefly in a previous sketch—these elementals, I contend, together with a limitation on the maximum distributable profit to be realized on the net transactions of the companies, form the safest and sanest method yet devised for the economic administration of any business of a quasi-public character. This, indeed, is the present day basis on which stock fire insurance companies are operating.

Our agreement with the National Convention of Insurance Commissioners to limit the profits to be derived from net underwriting operations was effected last spring after years of negotiations. It is based on five-year averages, defines conflagrations and covers also the relationship between states—all factors of vital importance.

Under this system there is intense and healthy competition between the upward of three hundred stock companies doing business in the United States, with every incentive to keep down their expenses. Of course the best managed companies will make the most money while the cost of fire insurance to the public as a whole, expressed in rates, is limited by definite agreement.

Probably no other business in the world of the magnitude of that transacted by stock fire insurance companies has entered into a voluntary agreement to limit the profit on its net operations to only 5 per cent, with an additional 3 per cent (for your greater security) to be applied to the accumulation of "conflagration reserve funds" which can be drawn upon only in event companies may not be able to meet their liabilities out of surplus funds when conflagrations come.

## Fire Protection, Fire Prevention, Fire Extinguishing, First Aid and Rescue Work as It Pertains to Industrial Plants

(Continued from page one)

workers. Worst of all it affords an opening for fires and accidents. The public is beginning to appreciate the enormous price paid for accidents in industries. The amounts paid out under the workman's compensation act in the various states clearly indicates the number of accidents that could be prevented and the sum that could be saved by a proper campaign of education.

The State of Ohio last year paid out \$9,000,000 in death and injury claims under its workman's compensation law. The money from which these funds are drawn is paid in by the employers of the plant. These payments increase their overhead expense and are therefore added to the price of the commodity they manufacture. Again the public pays the bill. The longer the public continues to ignore carelessness and indifference the longer it will pay higher prices for everything.

Even though the injured worker receives some compensation from the state the small amount of money thus paid does not begin to represent the real amount of the loss. If the victim of the accident is totally disabled the services of a producer have been lost to industry. If he is partly disabled, his efficiency has been impaired and more than likely he must seek to support himself in some totally different form of employment. His employer suffers loss until he is able to replace the injured man with another workman. This is not always easily done. In the crafts requiring a higher degree of mechanical skill. The injured man loses through having his earning power decreased. This decreased earning power in turn affects his family's standard of living. He may be compelled to move from a comfortable home in a desirable neighborhood to poorer quarters in the slum district. This change of environment directly affects the physical and moral welfare of his children. Bad air and improper sanitation threaten their health. Evil associates and unwholesome habits undermine their characters and in either event they are likely to become public charges whether cared for in a hospital or a penal institution. The elimination of the carelessness which causes this human and economic waste is a matter of public education. It should be taken up as a civic and religious duty in the factory, in the schools and in churches. Religion teaches us our duty to our neighbor. Surely then there can be no higher duty than putting into effect the knowledge and regulation that will protect the lives and the health of our loved ones and the safety of his property.

One of the most deplorable conditions caused by factory or industrial fires is the unemployment condition

created by throwing the services of the employees made workless by this fire in competition with the employees of the unaffected industrial plants.

Following are a few suggestions that should be adhered to by architects and structural engineers in the erection of manufacturing plants of all kinds. Fire protection engineering is becoming a profession by itself. After all, its chief distinguishing quality is common sense. The principal demand is that the architect and builder should have the consciousness of the fire hazard, for up to this time very few of them have thought much about it. With the thought of the importance of this item in mind no grievous blundering is possible and technical advice on specific features can generally be had without charge from the fire protection engineers in the service of the various underwriters inspection departments having jurisdiction. It is my intention to set out certain fundamental principles which may serve as a basis of approach for those who have yet given no thought to the subject. Experience in fire protection engineering suggests three points to be kept in mind in planning a factory.

**First**—There should be as little combustible material as possible used in its construction and equipment.

**Second**—Each floor should be absolutely cut off from every other floor and each section from every other section so that fire may not communicate.

**Third**—Every part of the factory should be equipped with fire extinguishing apparatus.

Touching the subject of fire extinguishing apparatus, this subject requires much thought and study on the part of those responsible for the safety of the plant as many fire extinguishing equipments sold today are only adapted for certain classes of fires. In many instances so-called fire fighting equipment is missold and disrepresented. For instance, the small type of fire extinguisher known as the carbon tetra chloride class of extinguisher is a very handy article to have in case of a small electric fire, automobile fire. Aside from this, I would not recommend this class of extinguisher.

We next come to the soda and acid extinguisher, the two and one-half, three and five gallon type. These are very efficient and very necessary around any industrial plant and can be counted on to give a good account of themselves in a small fire, but in industries where oil and gasoline are used or stored there is one other type of extinguisher known as the foamite firefoam extinguisher which is the most reliable in oil or gasoline fires.

We now come to the subject of fire

extinguishment where fires are fought or discovered by the industrial fire fighting force. Every effort should be made to combat and hold that fire, but the paid fire department of the city or town should be immediately called as their experience in combating fires is much greater, and as they are paid for this purpose it is necessary they be notified at once as the success of all fire fighting depends upon the experienced men catching the situation in its insipency.

Where fires are fought by industrial fire fighters great care should be taken to never ventilate fire from below, but always keep all doors closed below and ventilate from above. Never turn your stream of water into a gasoline or oil fire as they will spread the fire and drive it before you. Always overshoot the fire and in this way you prevent the spread, and the water creating a curtain over the fire helps to smother it.

Every industrial plant should have a thoroughly organized and thoroughly drilled fire department, a chief and assistant chief should be appointed, a captain on each floor and monitors under each captain. Each monitor should have charge of a squad of men, each squad should have its assigned duties. For instance, the duty of one squad under one monitor should be assigned the duty of searching their floor to see that everybody is out of the building before they leave. To another squad should be assigned the duty to see that everyone leaving that floor should leave there in an orderly and quiet manner and that no excitement or confusion prevails. To another squad should be appointed the duty of notifying the paid fire departments of the city. To other squads should be assigned the duty of getting out the plant's fire fighting equipment. To one squad should be assigned the duty of notifying the plant engineer having charge of the pumps, the same squad to be in charge of all fire signals at the plant. To another squad should be assigned the duty of first aid and rescue work and these men should be thoroughly drilled and training. Every plant should have a fire drill at least once a week and once more I would like to say to all employees that in protecting the property and the plant at which you are employed from fire you are not conferring half the favor on your employer that you are on yourself and every employee should gladly enter this work with enthusiasm and give it his earnest support for it is his bread and butter.

First Scout: "See that man over there?"

Second Scout: "Yes."

First Scout: "Well, he can't see snow."

Second Scout: "Oh, that's strange. What is the reason?"

First Scout: "Because there isn't any to see just yet."

## THE SPRING CLEAN-UP

(Continued from page two)

to perform a valuable service for the community. The committee might prevail upon the mayor to issue a proclamation urging the citizens and business men to remove rubbish from hidden places in the home and place of business and then arrange to have it collected and disposed of at the expense of the town and under the direction of the local fire officials.

A public bonfire supervised by the local fire department would be a splendid way to dispose of the rubbish and would add materially in bringing the citizens to a realization of the hazards they have housed through the winter months.

Fire prevention programs should be carried out in the public schools, devoting some time to the discussion of the subject of fire prevention and a most appropriate way to end the activities of the week would be to arrange for a public fire prevention meeting to be held in the town hall or one of the local theatres.

If a proclamation is issued by the Mayor, it is suggested that it be issued several days before May 1. The local Fire Prevention Committee, if there is one, should take the initiative in organizing the clean-up. If no standing Fire Prevention Committee exists, a special Fire Prevention Committee should be appointed to arrange for the program to be carried out in that town.

The committee should enlist the support of the local newspapers in order that the widest publicity may be given to the movement. The editors of all local papers are keenly interested in the welfare of the communities in which their papers circulate and, as this is a matter of civic interest, they will be found willing to co-operate in every way for the success of the campaign.

First Tramp—"You'll find it pays to be polite."

Second Trap—"Not always, I guess. The other day I was acting deaf and dumb when a man giv' me a dime. I says, thank you, sir, and he had me arrested."

## SMOKES AND MATCHES

If all the cigars smoked in the United States each year were laid end to end, they would equal the mileage of steam and electric railroads in the country and there would be enough left to circle the equator more than five times. Three times as many cigarettes are smoked. More than 700,000,000 matches are used daily.

In 1920 matches and smoking caused a \$600,000 fire loss in Illinois. In the five-year period preceding 1920 they caused a loss of almost \$92,000,000 in the United States.

Every care should be taken with matches and smoking material so that they do not cause fires.

## YEAR'S HEAVY LOSSES A DISCOURAGING RECORD

As predicted of last month the fire record for 1921 ran ahead of 1920, exceeding it by \$11,521,435. Taking into consideration the deflation of values going on in the last few months of the year, this record is particularly discouraging from a Fire Prevention standpoint. It would almost seem—as if all the preaching and teaching on the subject had had the reverse effect and had driven the surface to carelessness. Of course, no such actual result is the case and one must look to other causes for the fact that 1921 has broken all records except that of 1906—the year of the San Francisco disaster—and of course is way ahead of that year when the immense loss caused by that catastrophe is deducted from its losses.

Several reasons can be ascribed

for the increase of this year over the previous one and of 1920 over 1919. One of the contributing causes for this year's increase is to be found in the moral hazard owing to the severe business depression. Another is the series of incendiary fires in the cotton belt of the South during the epidemic of agitation over the falling prices of that staple. Still another group of incendiary fires was those which destroyed many school houses in Pennsylvania in the early part of last year and caused heavy losses. Other elements have operated to swell the total, but the ugly fact still remains that the carelessness and indifference to Fire Prevention principle are responsible for the great bulk of the disgraceful fire losses of 1921. The losses by months of 1919, 1920 and 1921 are as follows:

	1919	1920	1921
January .....	\$ 29,446,950	\$ 37,012,750	\$ 35,828,950
February .....	26,891,950	26,631,500	25,903,650
March .....	22,201,900	27,597,700	26,729,450
April .....	15,484,750	22,108,750	29,936,950
May .....	16,516,300	25,440,300	22,267,950
June .....	20,475,750	26,593,650	29,005,350
July .....	20,198,600	25,135,825	32,181,800
August .....	24,526,900	17,930,800	28,964,450
September .....	29,083,500	25,630,050	31,176,100
October .....	13,358,400	27,135,400	25,505,800
November .....	23,450,800	24,169,000	23,641,160
December .....	27,366,500	37,578,250	24,294,300
Total .....	\$269,000,775	\$322,963,975	\$334,485,410

The total number of fires of \$10,000 and over during 1921 was 4,068. This compares with 3,457 in 1920, 2,904 in 1919 and 2,943 in 1918. The number of these fires by months for 1921 is as follows: January 378, February 313, March 305, April 345, May 269, June 300, July 380, August 339, September 370, October 376, November 305 and December 388. For the month of December, 1921, the total of \$24,294,300 fell over \$13,000,000 below that of 1920 and \$3,000,000 less than 1919.

It ran ahead of November by \$600,000. The number of fires in December which equalled or exceed-

ed \$10,000 were 388 as against 303 in November, 376 in October and 370 in September. Fires equalling or exceeding \$200,000 were 28; \$100,000 to \$200,000, 42; \$75,000 to \$100,000, 17; \$50,000 to \$75,000, 32; \$40,000 to \$50,000, 39; \$30,000 to \$40,000, 19; \$20,000 to \$30,000, 62; \$10,000 to \$20,000, 149. There were an unusually small number of million dollar fires, only two being recorded during the month, those in the warrooms of the Consolidated Film Supply Company, Dallas, Texas, and the great business section in Augusta, Ga.—Fire and Water Engineering.

## FIRE LOSSES FOR MONTH OF DECEMBER, 1921.

	Value of No. of Bldgs. and Fires	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	49	\$ 1,425,165	\$ 55,565
Minneapolis .....	105	1,919,000	209,415
Duluth .....	21	492,325	20,881
Outside Three Cities.....	172	1,201,014	385,405
Total .....	347	\$5,037,504	\$671,266

## FIRE LOSSES FOR MONTH OF DECEMBER, 1920.

	Value of No. of Bldgs. and Fires	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	31	\$ 1,214,875	\$ 89,885
Minneapolis .....	76	2,120,350	136,385
Duluth .....	12	456,050	12,951
Outside Three Cities.....	131	1,439,310	382,640
Total .....	250	\$5,230,585	\$621,861

\$2,827,039

14.64  
66

# STATE OF MINNESOTA

# FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

UNIVERSITY OF ILLINOIS LIBRARY  
JUL 10 1922

No. 36

Saint Paul

March 15, 1922

## Spring Clean-up Campaign

May 1st to May 8th

For the Whole State of Minnesota

May Every Citizen Help

**FOR THE MERCHANT:**—Make thorough inspection of your place of business. Remove all packing cases, barrels, rubbish and other inflammable material that may have accumulated in your basement or storeroom during the winter. This is for your safety as well as your neighbors.

**FOR GENERAL MANAGERS** of industrial plants, shops and factories: For the safety of your employees and your plant, follow the same suggestions offered above.

**FOR THE HOUSEKEEPER:**—Clean house from garret to basement. Keep the home free from rubbish and other inflammable material that may catch fire or aid it in spreading.

**TO CITY AND VILLAGE OFFICIALS:**—Urge every citizen in your town to take part in this clean-up campaign.

**THE TIME**—May 1st to May 8th

**THE PLACE**—Throughout Minnesota

## Spring Clean-up Campaign: Suggested Program for Week

### MONDAY, MAY 1

School day inspection of all schools. Fire drill in all schools. Have teachers explain to pupils what clean-up means, not only to them, but to the entire community. If possible give out home inspection cards to be filled out by the children so that actual home conditions can be ascertained. Address to the school children by the Fire Chief or some of his aides.

Night meeting of Fire Prevention Committee. Reports of subcommittees on ways and means, women's clubs, housewives' section, boy scouts, schools, the clergy, etc.

### TUESDAY, MAY 2.

Inspection of town starts. Exhibition at noon by the local fire department.

### WEDNESDAY, MAY 3.

Inspection continued.

### THURSDAY, MAY 4.

Inspection continued.

### FRIDAY, MAY 5.

Inspection continued.

### SATURDAY, MAY 6.

Inspection and tabulation of inspection work.

### SUNDAY, MAY 7.

Local pastors aid campaign by short talks on Fire Prevention and

its relation to the health and prosperity of the Community.

### MONDAY, MAY 8.

Fire prevention luncheon by Chamber of Commerce or Board of Trade. Final report and mass meeting at night. Mayor reports, "Our Town Safe."

### MASS MEETING PROGRAM.

Call to order by the Mayor.

Invocation.

Song, "The Star Spangled Banner."

Address by some good speaker on "Why This Meeting Was Called."

Address by fire chief: "Fires in This Town and How They Can Be Prevented."

Address by insurance man on "What Makes the Rate."

Address by some prominent business man on "Our Town's Needs and How to Meet Them."

(Continued on page three)

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**

Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire  
Prevention and Fire Protection

SAINT PAUL, MAR. 15, 1922

The Bulletin will be mailed to any address  
regularly upon request

**ANNOUNCEMENT**

**It falls to the lot of Rochester to entertain the Fiftieth Anniversary of the Minnesota State Fire Department Association, which will be held there June 13 and 14. A more suitable location could not have been selected for this meeting for besides being the Golden Jubilee of the State Association it marks the consolidation of the State Convention and the Minnesota State Fire College which opens on the morning of June 15.**

Rochester has the fire department equipment that will make it possible to conduct this school on the same scale as it has been in the past, apparatus and a headquarters that will bear the most rigid inspection. Its hotel accommodations cannot be duplicated. Rochester is a beautiful city, but more than that, it is wide awake. Its business men are live wires. Rochester will make a real convention city. Those who will have the good fortune to attend surely have something in store for them.

The firemen in the state, especially those who have attended the former Fire Colleges held, will be pleased to learn that the committee in charge has again procured the services of Mr. Leon L. Wolf of Cincinnati as instructor.

Mr. Wolf has conducted a number of Fire Colleges in different parts of the country since his last visit to Minnesota, he has added many new and interesting phases of fire fighting to his program and will also have a number of pieces of new equipment, used in connection with demonstrations, with him.

**JUST ANOTHER INSTANCE**

Fire completely destroyed the rural school house, known as the Jensen school in Brighton township. Some of the school children went to the school around 4:30 Sunday afternoon to start a fire, so that the building would be warm for them on Monday morning. No water was available with which to fight it and it was a total loss shortly after its discovery.

**TAKING THE MYSTERY OUT OF FIRE INSURANCE**

(Originally appearing under the title of "Giving a Thought to Fire Insurance," by John B. Morton, President National Board of Fire Underwriters, New York. Published in eight installments, the first of which appeared in the October issue of this bulletin.)

**CHAPTER VI.**

*Interest earnings on investments—low dividends for the past decade—disastrous effect of retaliatory state laws.*

*Local agents as an economic factor.*

From the hazardous nature of stock fire underwriting at all times, and with possibilities of great conflagration losses ever before us, no one will gainsay that those who have their money at stake are entitled to good returns on their business operations outside the earnings that may be made from interest on invested assets.

It so happens, however, that for a long period of years the total business of all companies in the aggregate shows an operating loss. The narrow margin of profit, in years when there is profit, and the general average of loss on the total operations over long periods, has had a deterring effect upon the organization of new companies and has caused many old and respected institutions to retire from business.

Only a few years ago there were more than four hundred stock companies competing for business in the United States. Today there are a few over three hundred. During the past ten years the dividends paid to stockholders on the capital and surplus they originally invested in one hundred and thirty-five so-called "millionaire" companies, (companies having a million or more in assets), amounted to a trifle less than 7 per cent.

What is of immediate importance in this connection is that interest on investments not only furnished all the dividends of stockholders, but also furnished something over for accretions to the surplus which is held for the greater security of policyholders and to establish confidence.

It was for these reasons that the National Convention of Insurance Commissioners, in reaching the agreement with stock fire insurance companies as to what constituted a reasonable underwriting profit, (outlined in the previous sketch), agreed also that interest on assets, including the reserves known as "unearned premium liability" which previously have been explained, should be credited to their investment account and not to their underwriting.

Were interest earnings on the investments of stock fire insurance companies to be diverted, it would either cause an immediate increase in rates to make up for the loss of income, or the withdrawal from business of many companies because, to repeat previous statements, and with emphasis, the returns from both sources today (underwriting and in-

vestment) are barely sufficient for a reasonable profit to those in the business and are not sufficient to attract new capital.

Insurance is not commerce, according to a celebrated and long standing decision of the Supreme Court of the United States, and so each state prescribes the conditions under which the companies of other states may be licensed to transact business within its borders. The result is a medley of insurance laws governing our operations and defining the character of investments, in all but nine states present statutes providing also for "retaliation."

The effect of retaliatory laws is immediate and severe. For instance, if New York requires of the companies of other states compulsory investment in New York mortgages, or any other class of securities, under retaliatory statutes those states at once require investment by New York State companies in their mortgages or other prescribed securities. Such investments made compulsory on stock fire insurance companies in any given percentage, must have the effect of curtailing their operations, so reducing competition and carrying capacity, and tending also to divert the companies from the functions for which they were chartered.

Every stock fire insurance company worthy the name, wants to diversify its investments so as to (1) establish confidence in its stability and (2) make them marketable, in case of conflagration losses, most quickly and with the least sacrifice.

In our business, the contact with the public is largely through agents who are located in every hamlet, town and city in the country. Agents are the commercial reporters on fire insurance for the public, and are absolutely necessary to assist property owners in safeguarding their property, in effecting improvements under the Self-Elective system of rating, and in protecting their property interests with a proper cover of fire insurance—as important indeed as a local bank.

Local agents are the retailers of our business and their cost to the public is adequately returned in service rendered. This cost is less, we believe, than any similar factor in other lines of business. Comparisons are difficult to secure as most business operations are privately conducted while all that pertains to stock fire insurance is public property in the office of every state insurance department in the country.

In fact I am firmly convinced that the whole expense and profit of stock fire insurance, (manufacturing, wholesaling and retailing), based on the rather incomplete information

(Continued on page three)

**FIRE PREVENTION INSPECTION QUESTIONNAIRE**

This blank can be added to or reduced as the case may be to suit local conditions, and is meant now for the smaller municipalities:

Name of school.....

Name of teacher .....

Name of pupil .....

Location of home.....(street, etc.)

Do you burn coal, gas or wood?.....

Are your chimneys clean and in good repair?.....

Are the roofs in good repair and free from curled up shingles?.....

Any inflammable rubbish in garret, cellar, room, barn, garage or out-building? .....

If so, where is it located?.....

Are your floors protected from the stoves by metal mats or other non-inflammable material? .....

Are furnaces or stovepipes in contact with joist, walls, floors or other wood? .....

If you burn gas, have you any rubber tube connections?.....

If so, where are they located? .....

Where do you keep the coal oil can?.....

Where do you keep the gasoline can? .....

Are there any paints or oils of any kind in the house?.....

Where are they kept? .....

Do you have an oil mop?.....

Where kept?.....

Is it in a tight covered can?.....

Any flue holes stopped with rags or hidden by wall paper or pictures?....

Have you fire buckets, fire extinguishers, garden hose, or other means of protection from fire?.....

Do you have fire drills at home so you would know what to do at night if fire broke out? .....

Are halls clear of chairs and stairways free from obstructions?.....

Do all the windows in the house open easily?.....

Do you use electric irons or cooking utensils of any kind?.....

If there are electric wires in the house did an expert put them in?.....

Have you a telephone?.....

Do you know how to get the fire department in case of fire?.....

Can you turn in a box fire alarm?.....

Where is your nearest fire alarm box located?.....

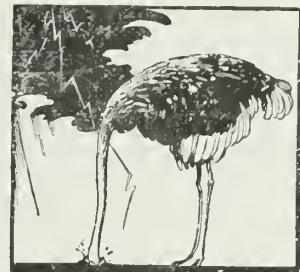
Do you tell your parents what you have learned about Fire Prevention at school?.....\*

Do you talk it over at night?.....

Where do you keep your matches, and what kind do you use?.....

Do you have oily rags in house, or garage, and where are they kept?.....

Other questions could also be asked. These questionnaires can be turned over to the general committee for their guidance. What you want to find out from the questionnaire is, "What hazards have we in our homes in this town."



**DON'T BE AN OSTRICH**

The ostrich buries his head in the sand and thinks he is hidden. He is mistaken. The merchant or manufacturer insures against fire to the limit and thinks he is fully protected. Like the ostrich he is mistaken for loss of trade during the time his business is being re-established, which trade is being taken care of by a competitor, some of which will never return, the time and energy used in placing the business back on its feet, for which he receives no compensation, are losses that are not covered by the fire insurance policies.

### Spring Clean-up Campaign: Suggested Program for Week

(Continued from page one)

Organization of a strong Fire Prevention Clean-up Committee.

Note—This clean-up program may be extended to May 15 and other Fire Prevention and Clean-Up ideas added and carried out.

#### SAMPLE SCHOOL PROGRAM

Be sure and invite the parents and relatives of the children to this meeting.

Music—"The Star Spangled Banner."

Address by the school superintendent on "What Fire Prevention Is."

Essay—"Why Our Town Should Be Clean" by a pupil.

There might be prizes offered and an essay contest conducted to stimulate interest.

Talk to the children by the fire chief.

Remarks by teachers and parents.

Essay—"What I Would Do in Case Our House Caught Fire."

Essay—"The Common Fire Dangers of the Home."

Giving out of questionnaires.

Song—"America."

### Taking the Mystery Out of Fire Insurance

(Continued from Page two)

from trade bodies with which we have been in correspondence, is less than that of any other branch of business conducted on a similar basis.

Have you read "Fire Protection, Fire Extinguishing, First Aid and Rescue Work as it Pertains to Industrial Plants," one of the leading features of the February Bulletin? It is well worth your attention. Through an error the name of the author, L. L. Wolf of Cincinnati, well known in fire prevention and fire department circles, was omitted.

#### CLEAN-UP SUGGESTIONS

Let the women, the boy and girl scouts and the children baffle home inspections.

Work of inspecting manufacturing plants, offices, public buildings, churches and schools should be done by the Fire Chief, members of Fire Department and local Fire Prevention Committee.

Rubbish should be burned under direction of fire chief.

Bale waste paper. It is worth money. Old iron, metals, discarded furniture, etc., all have a value.

Do not burn anything that can be converted into cash.

Whitewash is a good fire retardant and makes an unsightly fence look respectable.

Every available space that will grow things should be put into vegetables. Every vegetable that matures is that much off the high cost of living.

After you have cleaned up your premises, help your neighbor. He may not know how.

A bushel of potatoes is a bigger asset to a family than an ash pile.

Examine into the town's water supply. Is it equal to a conflagration test?

After you have cleaned your town up, keep it clean!

#### MAN DIES IN SMALL FIRE

John Olson, 50 years old, was overcome by smoke from a small basement fire at 139 East Indiana avenue, St. Paul. He was dead when firemen reached him. The loss by fire and smoke was estimated at \$500.

Olson, who was janitor at the building, lived alone in a small room in the basement. When firemen entered the smoke filled room they found the janitor suffocated. He also was slightly burned on the face and hands. The cause of the fire was undetermined.

## Minnesota Fire Losses Large: Most Fires Strictly Preventable

During the five years ending with 1920, fire losses in Minnesota caused the destruction of property valued at the astonishing total of \$41,874,976, according to figures by the national board of fire underwriters.

These figures reveal, in a startling way, the price being paid by the state for public ignorance and carelessness in handling fire hazards.

The causes are classified under three headings, of which 12 are designated as "strictly preventable" with a total of \$8,753,200 or 20.9 per cent of the whole; nine are designated as "partly preventable," the aggregate being \$26,837,350 or 64.1 per cent of the complete loss, and in addition there are those listed in the "unknown" column, which total \$6,284,426 or 15 per cent.

The "unknown" losses may be considered as largely preventable since, if determined, they would have been distributed among the other causes.

#### Chief Cause of Fires

In analyzing the figures, it is found that while "exposure," which means the effect of communicated fires, was responsible for the heaviest loss, \$17,730,478, the principal specific cause of fire was "spontaneous combustion" with a total of \$3,114,614. Next in importance, as causes of fire, were "electricity," \$2,906,591, then "matches-smoking," \$2,431,939, and then "stoves, furnaces, boilers and their pipes," \$2,327,606.

#### Tabulated Losses

The losses during the five years were as follows:

Strictly preventable causes:	
Defective Chimneys and Flues	\$ 1,384,484
Fireworks, firecrackers, etc.	62,867
Gas, Natural and Artificial	109,292
Hot Ashes and Coals, Open Fires	451,094
Ignition of Hot Grease, Oil, Tar, Wax, Asphalt, etc.	63,691
Matches, Smoking	2,431,939
Open Lights	258,641

#### BUILDINGS CONDEMNED DURING THE MONTHS OF JANUARY AND FEBRUARY.

Owner.	Location.	Kind of Bldg.
Mathias Wondra	460-2 W. 7th Street	Partly burned bldg.
Christian Hansen Realty Co.	16-26 W. 3rd Street	Store & Dwellings.
Hurd Realty Company	15 W. 10th Street	Vacant bldg.
		Minneapolis
Raymond B. McNerney	2633 Girard Avenue S.	Vacant bldg.
Dora A. Kauffman	618 Plymouth Avenue.	Dwelling.
Mrs. Ellen Lynch	Graceville	Remains of burned bldg.
B. J. Barlong B. B. Lee	St. Paul	Barn
Alice N. Joslyn	Worthington	Vacant bldg.
B. W. Tyler	Wells	Vacant bldg.
A. D. Evans	Bertha.	Walls of a bldg.
	North St. Paul.	

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# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTELETON, Fire Marshal

Room 330, State Capitol

No. 37

Saint Paul

April 15, 1922

## Spring Clean-Up Week MAY 1---MAY 8, 1922

**MAKE MINNESOTA SAFE FROM FIRE.  
CLEAN UP THE TRASH**

**Monday, May 1**—Exercises in all schools.

**Tuesday, May 2**—Inspection by Fire Department.

**Wednesday, Thursday, Friday and Saturday**—Clean-up Inspections continued.

**Sunday, May 7**—Fire Prevention talks by pastors.

**Monday, May 8**—Mass meeting, prevention talks by prominent citizens, and banquet.

Commercial, Kiwanis, Rotary, Women's Clubs and other civic and social organizations meeting this week should devote some time to discussion of fire waste.

**REMEMBER A POUND OF PREVENTION IS  
WORTH A FIRE BRIGADE**

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

SAINT PAUL, APR. 15, 1922

The Bulletin will be mailed to any address regularly upon request

**TO FIRE CHIEFS  
OF MINNESOTA:**

Have you made arrangements to attend or have your department represented at the Convention of the State Association and the Minnesota Fire College to be held at Rochester, June 13 to 17, inclusive. If not, this is a matter that you should take up with your Mayor or City Commissioners at once, for every town in the state having a fire department should be represented, and the delegates should go at the expense of the town, for it is the town that is really the beneficiary.

As you may know, the 1922 session will be the fiftieth anniversary of the Minnesota State Fire Department Association, and as the Golden Jubilee every effort is being made to make it the biggest meeting since the Association was founded, and it will be. The program is different. It will be more on the order of the program put on at the meeting of the National Association of Fire Engineers. It will not only be interesting but most instructive, and the delegates this year will be given the opportunity without incurring much additional expense to attend the Minnesota Fire College, a training school for firemen.

Let your city officers know about this and that through the instruction received in this school you will be in a position to increase the efficiency of your department which may mean the saving of thousands of dollars to your town. The value of this training has been expressed in many letters received from fire chiefs and firemen who had the privilege of attending the first Fire Colleges held, and many of them state that they learned more about the fire-fighting game the few days they were in this school than they had during the many years they had been connected with the fire department.

More time will be devoted this year to work of a nature that will be of interest to the small department. It is hoped that every town will send at least two men, some will send three and some four. Every town should be represented by at least one man, someone who can go home after the Fire College and give the other members of the department the benefit of the instruction and information received.

**TAKING THE MYSTERY OUT OF FIRE INSURANCE**

(Originally appearing under the title of "Giving a Thought to Fire Insurance," by John B. Morton, President National Board of Fire Underwriters, New York. Published in eight installments, the first of which appeared in the October issue of this bulletin.)

CHAPTER VII.

*Public confidence a basic principle.*

*Stock companies have highest standards, assured relieved of all responsibility. Policies are sight drafts for honest claimants.*

Can you visualize the distrust among policyholders—equivalent almost to panic—that would have followed the San Francisco conflagration of 1906, with its unprecedented loss, had it not been for the confidence of the people, everywhere, in the good faith and financial integrity of stock fire insurance companies?

During three days' time that disaster wiped out insured property values greater by some sixty or seventy millions of dollars than the aggregate surplus of all the stock companies then licensed to do business in California!

Was this confidence of the people misplaced? No. As stated in one of the earlier sketches, the company failures were negligible and stockholders promptly responded to the call for the restoration of depleted capital and surplus coffers.

Stock fire underwriting, quite as much as if not more than banking, is dependent on the confidence of the public, and that which destroys confidence works almost irreparable damage so insidious is the progress of calumny and so difficult is it to overtake and refute.

Until fire comes a policy contract seems of but little importance and often is tucked away and forgotten. Hence it is of first importance that those who buy fire insurance to protect their property interests, and assure the peace of mind which leaves them free to prosecute their own business affairs, should have nothing but the best the market affords. Any form other than "stock" fire insurance puts the policyholder in the insurance business himself, with all its hazards and responsibilities, and merely creates for him a new liability; not relief from one already existent.

In the public conception, all branches and classes of companies are too often lumped together, even though they have nothing in common and are vastly different in organization requirements, methods, practices and operations. The impression exists only, because they are all called "insurance companies."

Let me divide the groups of companies first into those indemnifying for (1) property damaged or destroyed; (2) accidents and injuries to people; (3) failure in surety or fidelity; and (4) death, naturally or accidentally. They are known broadly as fire and marine, casualty, surety, and life insur-

ance companies. Again these are subdivided into classes—stock and mutual.

Each branch, and each class in each branch, is governed by separate insurance statutes of the several states, and in every case, except life, the reserve requirements for stock companies are the highest and their standards of solvency the most rigid. In life insurance alone—an entirely distinct service and with no relationship whatever to other branches—both stock and mutual companies are required to reserve under identical standards.

This explanation is made in answer to inquiries that have developed since the publication of these sketches was undertaken. I am, of course, speaking only for stock fire insurance companies and am trying to make plain that few principles and few statutes applicable to other branches properly could be applied to them. The functions and emergency requirements in our branch and class are peculiar to us alone.

You will have observed in these articles, of course, that no attempt has been made, except by mere reference to touch upon outward and visible services of fire underwriting such as the adjustment and payment of fire losses. You meet that every day, and know all about it. I can say, however, with the certainty of expressing no more than exact truth, that every stock fire insurance company seeking the confidence of the public earnestly desires to pay its losses promptly and honestly and in accordance with the policy provisions. The honest man has nothing to fear, ever, as every legitimate company will gladly assist him in getting his just due when loss comes.

The policy contracts issued to you which guarantee indemnity for loss to your property specified, are more for your protection than ours. For many years these contracts have been prescribed by statutes of New York and many other states both as to insuring conditions and restrictions, and to size of type. They are "Standard Policies" in fact as well as in name, the provisions for our common protection having been clarified by court decisions until there is no doubt of their intent.

Before loss occurs, as previously stated, a policy of fire insurance seemingly is of little importance, but after that event it becomes a document of great value. Then the contracts to which the stock fire insurance companies put their names and guarantees are, to all intents and purposes, sight drafts within certain contractual limitations, of course, but still sight drafts upon the makers in favor of honest claimants. These guarantees are backed by capital, surplus and the statutory reserves previously explained. They

(Continued on page three)

## Taking the Mystery Out of Fire Insurance

(Continued from Page two)

constitute Insurance within the full meaning of the word, that is, to make safe.

### CHAPTER VIII.

*Fire sanitation a natural factor—National Board of Fire Underwriters and its welfare work—Business justifies itself to the public.*

Stock fire underwriting justifies itself every day in the year by the public welfare work of Fire Sanitation which permeates its whole structure and which goes forward so unceasingly and yet unobtrusively.

Thousands upon thousands of lives and millions upon millions of property values are needlessly sacrificed annually through fires that might be prevented by carefulness and cleanliness.

Almost every natural factor in stock fire underwriting is a Fire Sanitation agent commissioned to minimize this needless human and property waste—the actuarial and rating bureaus and the local boards and exchanges in their survey, inspection and rating work; the many companies, their field representatives, their 180,000 agents and the 350,000 or more employees in the discharge of ordinary duties and in public conservation work.

In a still broader and more public way through the National Board of Fire Underwriters and its affiliations, Fire Sanitation is being inculcated as a principle in the home, community, state and country to the lasting good of the whole people. All this is not that the companies may make larger profits in the reduced losses sure to follow—competition and the voluntary agreement to limit profits attend to that—but that the business may justify itself to itself, to the public and to the country at large.

When the United States was called to take up arms in the late war, the protection from fire of cantonments, ship-building plants, grain elevators and the fourteen thousand factories engaged in manufacturing war material, became of first consideration. The National Board of Fire Underwriters—a voluntary organization of 180 stock companies associated for educational, engineering and statistical purposes, with no control over rates of fire insurance and no disciplinary power whatever over its membership—offered to the government the services not only of its own trained engineers, but the experts of actuarial bureaus, local boards and exchanges and the field men of individual companies, to prevent the unnecessary loss of war material.

Their work was salutary. The United States Grain Corporation did not have one solitary dollar of fire loss! Every cantonment in the United States was protected by engineering rules laid down by the National Board staff and there were few fires and no conflagrations. Ship building was protected with equally satisfactory results, and fires in

war working plants were minimized!

I wish it were possible, in this effort to encompass an encyclopedia within a few brief sketches, to detail the public welfare work of the National Board of Fire Underwriters, but must content myself merely with saying that through Underwriters' Laboratories it provides for expert tests, at cost, for every device submitted which must reach an established minimum standard to receive approval, all subject to review by the United States Bureau of Standards at Washington; that it co-operates with the authorities everywhere to expose those who perpetrate the crime of arson and so jeopardize lives as well as property values; that it helps cities to standardize fire departments, fire alarms and water supplies, to adopt standard building codes and generally to observe Fire Sanitation.

The National Board co-operates closely with the National Fire Protection Association to develop the best methods of preventing and extinguishing fire; with the Fire Marshals' Association of North America, those state officers whose duty it is to apply the laws of fire control and investigation; with the International Association of Fire Engineers, the chiefs of fire departments which are the pride of American cities, with Safety Councils, credit men, civic bodies and the specialists in electrical manufacturing and installation, in building construction and every industry where the principles of Fire Sanitation may be made operative.

The National Board comes into more direct contact with the public by literature prepared to emphasize Fire Prevention. Among the many publications is "Safeguarding America Against Fire," issued monthly, and presenting fire facts for the army of local agents to disseminate as fire cautions and fire lessons to the people with whom they come in direct contact. "Safeguarding the Home," teaching the youth of America the first principles of fire prevention and what to do in case of fire, is official in several states as a public school manual and is used in thousands of schools where there are no legal requirements. There are other publications—many others—dealing with the prevention, control and extinguishment of fire. Then too there is "The Danger That Never Sleeps," a fire caution filmed under the auspices of the National Board, and soon to be released.

These sketches have served merely to outline the broader fundamentals of stock fire underwriting which, to repeat, serve as a basis for the operations of the *co-ordinated* but not combined companies, all in competition with each other and with all other types of carriers. There is no "mystery" about our business though there is intricacy and complexity—the thousand and one ramifications that are not generally understood. I know so well the broad gauge and public spirit of the vast majority of those in charge of the destinies of stock fire underwriting, that I am confident were the people themselves to investigate, they would find the whole work so important and so devoid of

conspiracy or monopoly that they would demand its protection and not permit of its curtailment or destruction.

### EDITORS PLEASE NOTE:

The National Board of Fire Underwriters has published an ordinance for construction of chimneys suitable for use in cities and towns of any class.

The ordinance bears the endorsement of twelve national organizations interested in the subject, and this is evidence that as thus submitted it conforms reasonably with the mature ideas of the numerous experts who have co-operated with the National Board in its compilation. It covers the most modern requirements in chimney construction.

As the records of the past five years covering the whole United States show that defective chimneys and flues rank fourth in the list of most prolific causes of fire, the need for correcting this great evil is quite apparent. It is a scourge which affects cities, hamlets, and isolated buildings alike, and imperils both life and property; the remedy is simple and inexpensive as compared to the risk involved.

The State Fire Marshal Department has a liberal supply of these ordinances for distribution, which will be mailed to readers of your paper upon request.

### BASEMENT AND OTHER FIRE HAZARDS

Basements, small rear rooms and enclosures underneath stairway are very often the hiding places of serious fire hazards, which demand greater attention on the part of the property owners and occupants; most of them due to waste paper, packing material, empty packing boxes and paper cartons, excelsior and rubbish which should never be allowed to accumulate. "Out of sight is out of mind," an old but none the less true axiom; and many business men would be astounded if they realized the dangerous conditions they are permitting to exist in a portion of their premises usually most unguarded. A carelessly dropped cigarette or cigar stub might ignite the accumulation at any time, and fires starting in basements frequently get such a start that they are a serious menace to the lives of those on the floors above.

Many fires start from spontaneous combustion, from defective wiring or from habits of smokers. Owners of property as well as the occupants should see that rubbish is not allowed to accumulate anywhere on the premises. By doing this they not only conserve their own property—they keep insurance rates down, safeguard their neighbors and community, and do their share in the reduction of the prevention fire waste.

**SOME THINGS THAT  
"TELL YOUR FORTUNE"**

To block a fire escape may cause somebody to be burned to death.

Swinging gas brackets may set fire to the home.

Heating devices set too close to woodwork is a scheme of the fire fiend—avoid his trap.

To use kerosene for lighting a fire or hastening a slow-burning one often makes profit for the undertaker.

To fill a kerosene lamp while lighted may cause you to hurry out of the house to keep from burning to death.

Looking for a gas leak with an open fire has caused quite a few funeral sermons to be preached.

Going into a dark closet with a match, or other open fire, has lighted up the whole neighborhood.

To have any kind of a stove without floor protection underneath it is unwise, to say the least.

Steam pipes or steam radiators against woodwork frequently cause the insurance companies to have to pay fire losses.

Placing gas stoves on boxes or tables or other wooden substances may cause you to get into hurried communication with the fire department, or it may happen while you are asleep, and maybe you won't wake.

Figure such hazards out for yourself—there are "a thousand and one" of them about the home or business place, and it will pay you to be thoughtful. "Watch your step" and be careful.

**TOY PICTURE PROJECTOR**

**HAZARD**

Increasing use, in the home, of small motion picture machines is creating a real and serious fire hazard to life and property. These toy projectors are reasonably safe from ignition of the film in themselves if they use a small incandescent lamp. The models using a kerosene lamp are equally safe as regards ignition of the film by the ray of light, but are dangerous on account of the open flame and use of matches.

The greatest hazard is in ignition of film by matches, cigarettes, contact with hot objects, such as steam radiators or electric lamp globes or open flame. The fire hazard is multiplied enormously if the reel is unrolled or scraps of film are exposed to ignition. Children do not realize the inflammability of the ordinary nitro-cellulose film. It has been seen unrolled also in department stores with grave liability of a panic.

Motion picture film should be handled with the GREATEST CAUTION as it is highly INFLAMMABLE. Film should always be kept in approved metal cans when not in use, and cans should be kept away from open fires, stoves, lamps, steam radiators, etc. Observance of these precautions may prevent a serious fire.

**ONE OF STATE'S BIGGEST FIRE**

**HAZARDS SOON TO BE REMOVED**

One of Minnesota's biggest forest fire hazards in the northern part of the state will be removed soon when a large force of forest rangers and patrol men will burn the dead and fallen timber in Koochiching county.

A large strip, approximately nineteen miles long and a mile in width, running diagonally through the entire county, was laid low when a cyclone swept through that district in August, 1919. This strip was dense with forest growth, particularly spruce, cedar and pine, and since that time has been the bane of forest fire fighters and forest rangers.

It was impossible to remove this danger which so closely borders the state forests, because of the good timber contained therein, and forestry officials were compelled to wait until the valuable wood was removed, Mr. Linder said.

Virtually the entire stretch has been now cleared of the valuable timber, and nothing remains but the dead wood and brush, which in its present dry state is a menace to that entire section.

Forest rangers and patrol men will start burning out this debris immediately. It is planned to clear eight eight miles of this hazard in the first burning, and this, with the work already accomplished in previous years, will virtually eliminate this danger-

ous tract. About thirty men will be used in the clearing work under direct supervision of the state forester's office. This work will take more than a week, and will necessitate constant watchfulness so that the fire cannot spread into the timber regions.

To protect the good stand of timber and remove the danger of fire spreading beyond the fire workers' control, fires are set in the condemned area at strategic points and in such manner as to burn against the wind. In this way a net-work of fire-cleared paths or fire-breaks are formed, confining small areas of debris which are set and permitted to burn with the wind, thereby expediting the clearing work.

The work of forming these so-called fire-breaks requires technical knowledge of forest fire-fighting, and must be done in accordance with weather conditions, particularly as it pertains to the wind velocity, Mr. Linder explained.

The clearing of this enormous stretch of fire-hazard, practically in the heart of the timber region in that section of the state, will materially minimize dangers of fire this spring, not only by the removal of the debris but the space thus formed creates a path through the heart of the forest which will, in a running fire, act as a fire-break.

**INEXPENSIVE FIRE GUARD.**

An ordinary oil or vinegar barrel kept filled with brine, to a consistency which prevents freezing, is an inexpensive fire guard about any premises, whether it be dwelling, barn or workshop.

Ever notice how much easier it is to destroy young, tender weeds in the spring that it is in midsummer? The same rule applies to fire hazards. Get at them when they are small.—*Kansas Bulletin*.

**"COAL OIL STOVES"**

Watch closely the coal oil stoves. Fill them only in daylight, when the stove is not lighted; keep the wick well trimmed and never blow underneath the flame to extinguish it—turn the wick down, not too low, and blow from the top. To leave a burning oil stove in a tightly closed room for any length of time is inviting trouble. Be VERY CAREFUL that you do not, by mistake or otherwise, attempt to use gasoline for kerosene—funerals have been caused that way.

**FIRE LOSSES FOR THE MONTH OF FEBRUARY, 1922**

	No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	62	\$1,432,350	\$78,400	\$672,050
Minneapolis .....	99	2,173,350	225,050	1,810,650
Duluth .....	17	121,200	17,910	59,700
Outside Three Cities .....	142	1,340,352	671,260	810,740
Total .....	320	\$5,067,252	\$902,620	\$3,353,140

**FEBRUARY, 1921**

	No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	47	\$851,650	\$35,035	\$251,950
Minneapolis .....	79	1,882,825	371,270	1,433,825
Duluth .....	14	455,977	42,172	370,800
Outside Three Cities .....	112	784,904	398,577	395,070
Total .....	252	\$3,975,356	\$847,054	\$2,451,645

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# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTIETON Fire Marshal

Room 330, State Capitol

No. 38

Saint Paul

May 15, 1922



CHIEF WM. E. CUDMORE  
PRESIDENT, STATE ASSN:

The biggest event in  
the history of Fire De-  
partment activities ever  
held in Minnesota.



LEON L. WOLF  
Cincinnati, Ohio  
INSTRUCTOR, MINN. FIRE COLLEGE

You will go home feeling that it has been  
time well spent and you will be better  
equipped to perform your duties as a fireman.

DON'T MISS IT!



JOHN A. GROSS  
SECRETARY, STATE ASSN.

# FIRE MARSHAL BULLETIN

**State of Minnesota**

## FIRE MARSHAL BULLETIN

**George H. Nettleton, Fire Marshal**  
Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

SAINT PAUL, MAY 15, 1922

The Bulletin will be mailed to any address regularly upon request

### New Farm Hazards: Gasoline Chief Menace

There is no denying the fact that the various devices using gasoline for fuel, such as automobiles, tractors and stationary or portable power engines, all have served to increase fire hazards on the farm. Today most farmers have an automobile, gasoline engine for running pumps or other machinery about the farm and not a few have tractors. Often the motor car is kept in the barn, usually for the want of a better place to keep it. This is not a desirable location for an automobile and adds an unnecessary fire hazard to a risk that usually houses big values. The motor car ought to be stored in a separate garage building, constructed preferably of skeleton-steel or brick with a cement floor and located at least sixty feet from all other risks of any consequence. The same precautions are to be taken in the small, private garage with one or two cars as in the auto repair shop or public garage. "Open" heating or lighting devices are not to be permitted. Such operations as cleaning with gasoline or charging the car or smoking in the building are to be avoided just as carefully as in the larger garage. It would seem that in the case of the farmer, who has an automobile, tractor and power engines which would consume a rather large amount of fuel, it would be well to have an approved pump located outside with an underground tank to take care of all gasoline. Certainly in the course of time it would be an economical plan as well as a much safer one. In any event the gasoline pump should be located in a small building located at least fifty feet distant. Where tractors are used, it would be only consistent to have the garage large enough to house all such vehicles. Generally speaking, gasoline power engines are defectively installed in one or more ways. Exhaust pipes are taken away from the engine poorly, being in contact with wood walls and sometimes the exhaust does not extend even outside the risk, which is still worse. Then, too, the wires from the batteries are strung around in a haphazard manner. Such defects are common and the result that they produce at times are well known.—Fire Protection.

### TENTATIVE PROGRAM for 50th ANNUAL CONVENTION MINNESOTA STATE FIRE DEPARTMENT ASSOCIATION to be held at Rochester, Minn., June 13-14, 1922

#### Tuesday Morning

- 9:30 A. M.—Call to Order by President, Chief Wm. E. Cudmore.  
Invocation.  
Music by Minneapolis Fire Department Band.  
Convention Address of Welcome by Mayor C. D. Brown.  
Response to Address of Welcome—Chief C. W. Ringer, Minneapolis.  
Community Singing.  
Address—"The Road to Happiness"—Curtis Johnson, Rus City, Minn.  
Meeting of Credentials and Executive Committees.  
Adjournment.

#### Tuesday Afternoon

- 1:30 P. M.—Call to order by President, Chief Wm. E. Cudmore.  
Music by Minneapolis Fire Department Band.  
Reading of Communications.  
Report of Credentials Committee.  
Address—"Causes of Conflagrations"—T. Alfred Fleming.  
Reports of the Secretary and Treasurer.  
Vocal Selection.  
Report of Topics Committee.  
Adjournment.  
5:00 P. M.—Parade of Delegates will start from Convention Hall.  
7:00 P. M.—Round Table Discussion at Convention Hall, with Chief Chas. W. Ringer of Minneapolis, presiding.  
9:00 P. M.—Dancing on the Pavement.

#### Wednesday Morning

- 9:00 A. M.—Call to order by President, Chief Wm. E. Cudmore.  
Music by Minneapolis Fire Department Band.  
Reports of Association Committees.  
Election of Officers.  
Address—"The Fire College and Its Aims"—Leon L. Wolf.  
Adjournment.

12:30 P. M.—Banquet for the Firemen at the State Hospital. Music.

#### Wednesday Afternoon

- 2:00 P. M.—Call to order by President, Chief Wm. E. Cudmore.  
Music by Minneapolis Fire Department Band.  
Committee Reports.  
New Business.  
Organizing the Fire College and Enrolling Delegates.  
Adjournment.  
4:30 P. M.—Free Automobile Trip for Delegates and Guests.  
7:00 P. M.—Open-air Concert in the Park—Rochester Park Band.  
9:00 P. M.—Dancing on the Pavement.

## FIRE MARSHAL BULLETIN

### Bad Wiring Is Costly: Runs In The Millions

Annual loss through defective electric wiring in the United States is estimated at \$25,000,000 resulting from approximately 28,080 fires per annum or an average of 540 per week.

Minnesota's report of 95 fires caused through defective wiring, and improperly installed and operated electrical devices shows a loss of over \$297,705.00 in the past year.

It is evident that the public must be instructed on these hazards especially as regard changes in the wiring, and leaving the current on irons and devices not in use, and that the authorities should improve their inspection systems.

A loss of \$25,000,000 a year from electrical fires, with hundreds of deaths chiefly among women and children is too heavy a toll to pay for the American habit of carelessness.

The National Board of Fire Underwriters, which has tabulated the causes of fires from electrical hazards, shows during a period of one week 540 fires with the following as causes:

Flat irons .....	252
Defective cords .....	82
Other causes .....	206

Of the 206 miscellaneous electrical fires 76 were in attics and basements showing the effects of tampering with wires to make extensions.

Figures prove that the fire loss

from electricity is greater than that from any other single cause. A great many fires occur from defective wiring, bad insulation, unsoldered joints, open switches, fuses, and short circuits. Wires are often supported every ten feet. They should be supported every 4½ feet, and spaced 2½ inches apart. All joints to be properly soldered and taped, first with rubber tape and then with friction tape. Where wires pass through partitions and woodwork they must be properly protected by tubes or loom. Wires are often placed between walls without protection.

Lamp cords are often hung on wall by means of nails. This habit in time will cause the cord to wear and cause a short circuit.

Brass sockets over damp and concrete floors should be replaced by weather proof sockets. The little black paper insulation between the outside shell of the socket and the binding posts where wires connect will absorb moisture and cause the leakage of current to the outside shell and through the body to ground. It is not always the voltage, 110 volts will do the trick. Take no chances, secure weatherproof sockets in these places and be safe.

Remember that saving money by not having the electric wiring gone over, inspected, and repaired may be very expensive economy.

Have your wiring clean-up during CLEAN-UP WEEK.

### FIRE RESISTANT SCHOOL CONSTRUCTION

There is very little excuse for the schools of even the smallest town being constructed of anything but a fire resistant type. The lives of the children exposed to the peril of fire in a structure which embodies a fire hazard are much more precious to the community than the small sum which it would be necessary to spend to render safe the structures which house them. Lack of funds is a poor excuse for a city or town which exposes its little ones to death by fire. If money is lacking to bring the school building up to the proper fireproof condition, then it is always possible to issue bonds in order to provide the necessary funds.

A movement could well be started to compel derelict city officials, school trustees and boards of education, etc., to provide the proper housing facilities so as to avoid the danger of fire.

In case of old school buildings, where the prospects of new structures being erected at once is remote, care should be taken to provide proper exits and fire escapes in the form of separate tower stairways, horizontal exits with fire doors, leading from one side of the building to the other and substantial fire walls between, or some other method of rendering the occupants of the building as

### Some Things That "Tell Your Fortune"

To block a fire escape may cause somebody to be burned to death.

Swinging gas brackets may set fire to the home.

Heating devices set too close to woodwork is a scheme of the fire fiend—avoid his trap.

To use kerosene for lighting a fire or hastening a slow burning one often makes profit for the undertaker.

To fill a kerosene lamp while lighted may cause you to hurry out of the house to keep from burning to death.

Looking for a gas leak with an open fire has caused quite a few funeral sermons to be preached.

Going into a dark closet with a match or other open fire, has lighted up the whole neighborhood.

To have any kind of a stove without floor protection underneath it is unwise, to say the least.

Steam pipes or steam radiators against woodwork frequently cause the insurance companies to have to pay fire losses.

Placing gas stoves on boxes or tables or other wood substances may cause you to get into hurried communication with the fire department, or it may happen while you are asleep, and maybe you won't wake.

Figure such hazards out for yourself—there are "a thousand and one" of them about the home or business place, and it will pay you to be thoughtful—"watch your step" and be careful.

### INEXPENSIVE FIRE GUARD

An ordinary oil or vinegar barrel kept filled with brine, to a consistency which prevents freezing, is an inexpensive fire guard about any premises, whether it be dwelling, barn or workshop.

—Kansas Bulletin.

### ATTENTION DELEGATES TO STATE FIREMEN'S CONVENTION

Through the efforts of J. W. Trumbble of Minneapolis, Chairman of Transportation Committee for the firemen's convention, special reduced railroad rates have been secured from all points in Minnesota to Rochester. Tickets will be sold from June 9 to 15, inclusive, with final return limit to reach original starting point not later than midnight of June 22, 1922. Round trip tickets will be sold upon presentation of identification certificate at fair and one-half of the current fares with a minimum of one dollar for the round trip, tickets to be good by same route in both directions.

Only delegates and dependent members of their family are entitled to the benefit of reduced fare.

# FIRE MARSHAL BULLETIN

## Uniform Hose Couplings

The lack of uniformity in fire hose threads is a large factor contributing to the spread of our most disastrous fires. While the losses due to this cause cannot be accurately determined they are unquestionably large. The progress made these last two years clearly indicates that the standardization of threads on fire hose couplings and fittings may be readily accomplished at a comparatively small cost.

State-wide standardization is well under way in Minnesota, but there are still many towns and villages in the state that are not and have not availed themselves of the opportunity offered them by the State Fire Marshal's office to bring their fire hose fittings up to standard at a very low cost.

Uniformity of fire hose couplings may win the day for your town, but you won't know for sure until the emergency arrives. It may not seem so important to your city officials, but it may mean the destruction of property owned by some of them or the loss of many thousands of dollars to some of your townsmen if your hose fittings are not standard. Uniformity in this respect will increase the efficiency of your fire fighting equipment, especially if your neighboring towns are using the standard thread. Remember that it means better protection for your town.

The telephone, good roads and motor driven apparatus afford wonderful fire fighting facilities for the small town today, providing a mutual understanding exists that each town will go to the aid of the other when called upon and providing the equipment is uniform.

Since the spread of fire from this cause is wholly preventable and the conservation of our natural resources is the urgent need of the hour, it should be the duty of both state and municipal authorities to use their best efforts to promulgate this work of standardization and curtail the needless waste due to misfits in the existing fire hose threads.

The Fire Marshal's office is equipped with a complete set of standard thread cutting and sizing tools and is ready to serve you in this matter at a cost so low that it will surprise you, so low that you cannot afford to continue on with outlawed equipment.

## BASEMENT AND OTHER FIRE HAZARDS

Basements, small rear rooms and underneath stairways are very often the hiding places of serious fire hazards, which demand greater attention on the part of the property owners and occupants, most of them due to waste paper, packing material, empty packing boxes and paper cartons, excelsior and rubbish which should never be allowed to accumulate. "Out of sight is out of mind," an old but none the less true axiom,

and many business men would be astounded if they realized the dangerous conditions they are permitting to exist in a portion of their premises usually most unguarded. A carelessly dropped cigarette or cigar stub might ignite the accumulation at any time, and fires starting in basements frequently get such a start that they are a serious menace to the lives of those on the floors above.

Many fires start from spontaneous combustion, from defective wiring or from habits of smokers. Owners of property as well as the occupants should see that rubbish is not allowed to accumulate anywhere on the premises. By doing this they not only conserve their own property—they keep insurance rates down, safeguard their neighbors and community, and do their share in the reduction of the preventable fire waste.

## BUILDINGS CONDEMNED DURING THE MONTHS OF MARCH AND APRIL, 1922.

Owner	Location	Kind of Building
Margaret G. Cullen,	867 E. 7th Street,	Store and Sheds
Harry W. McQuaid,	134 E. 14th Street,	Barn
Robert Schreiner,	Eaton & State Streets,	Warehouse
Hamm Realty Company,	295 Grove Street,	Blacksmith Shop
Enoch F. Berrisford,	603-7 E. Rose Street,	Shed
Frances Kubiak and Jno Chambo,	781 Whitall Street,	House
<b>Minneapolis</b>		
Estate of Christian Foss,	2217 18th Ave. South,	Dwelling, barn and shed
Frances I. Dudley and John W. Dudley,	Buffalo,	Opera House and Stores
Isaac Kulberg.	Buffalo,	Warehouse and Shed
Samuel S. Granger,	Buffalo,	Store House
T. J. Jude,	Buffalo,	Barn
Dorthea Ordorff and Robert Kubalski	Buffalo,	Barn and Wood Shed
Henry and Mary La Plant,	Buffalo,	Barn and Shed
Village of Buffalo,	Buffalo,	Tool House
Emil Flamont,	Buffalo,	Barn
H. S. Lord,	Buffalo,	Vacant Bldg.
Bernard Bonstrom,	Buffalo,	Shed
Peter Franzen,	Buffalo,	Barn
Owen Haugland,	Buffalo,	Shed
J. D. Prahl,	Buffalo,	Shed
Gust Peterson,	Buffalo,	Shed
Fred L. Stewart,	Buffalo,	Shed
Anna Neutgens,	Chaska,	Barn
C. P. Kleinmann,	Forada,	Hotel
F. W. Seaman,	Hastings,	Shed
A. B. Heinen,	Hastings,	House
Gipson Lumber Company,	Hastings,	Vacant Bldg.
P. A. Hoffman,	Hastings,	Shed
First National Bank,	Lamberton,	Barn
Carl Splete,	Lamberton,	Vacant Bldg.
Minneapolis Brewing Company,	Kerrick,	Vacant Bldg.
Oliver Iron Mining Company,	Marble,	Store Bldg.
Fred Edner,	Marble,	Shed
Mitchell Brewing Company,	Revere,	Vacant Bldg.
W. T. Bates,	Virginia,	Vacant Bldg.

## ORDERS ISSUED FOR THE ERECTION OF FIRE ESCAPES.

Ousley & Walker,	Austin,	Apartment House
City of Hastings,	Hastings,	City Hospital
State of Minnesota, M. N. G.,	Winona,	State Armory

## TOTAL LOSSES FOR THE MONTH OF MARCH, 1922.

No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	\$610,030	\$ 26,570	\$101,000
Minneapolis . . . . .	1,607,150	109,115	1,029,400
Duluth . . . . .	132,900	9,128	77,900
Outside Three Cities . . . . .	1,377,135	513,926	632,685
Total . . . . .	\$3,727,215	\$658,739	\$1,840,985

## MARCH, 1921.

No. of Fires	Value of Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul . . . . .	\$812,795	\$ 12,700	\$141,000
Minneapolis . . . . .	2,781,200	69,470	2,265,100
Duluth . . . . .	320,200	47,081	245,900
Outside Three Cities . . . . .	979,375	204,429	580,342
Total . . . . .	\$4,893,570	\$333,680	\$3,332,342

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JUN 20 1922

# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 39

Saint Paul

June 15, 1922

## ROCHESTER

Host to the

Fiftieth Anniversary Convention

of the

MINNESOTA FIRE  
DEPARTMENT  
ASSOCIATION

and the

MINNESOTA  
FIRE COLLEGE

held

JUNE 13-14-15-16-17  
1922



ROCHESTER FIRE DEPARTMENT  
HEADQUARTERS AND EQUIPMENT

PERSONNEL, ROCHESTER FIRE DEPARTMENT



**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

**SAINT PAUL, JUNE 15, 1922**

The Bulletin will be mailed to any address regularly upon request

**USING THE RADIO WITH SAFETY**

Nearly every invention that carries an appeal to the popular imagination goes through a "stunt" period before it settles down to conservative usefulness and becomes a more or less intimate part of our daily existence. It may be that radiotelephony is at present passing through such a phase and that it will find its true field as an adjunct, with certain definite limitations, to the systems of rapid intercommunication already in common employment.

Meanwhile large numbers of people, whose previous electrical experience embraced chiefly the operation of replacing burnt-out lamp, are conducting sundry experiments with radio apparatus, many being dangerous. It is true that the lightning hazard is eliminated when indoor antennæ are used, and that outdoor aerials may be rendered reasonably safe by establishing proper ground connection and installing an approved lightning arrester. But these take care of only one source of danger; other fire hazards remain. Many people do not realize that the six-volt storage battery, such as numbers of enthusiasts are using to light the filaments of their electron tubes, is capable of starting a serious fire; it has done so more than once. Re-charging such a battery from the electric light current in the home adds also to the risk of fire; as do recent ill-considered attempts to receive messages via the house lighting circuit. The presence of radio apparatus, with its necessary wiring—installed more often than not without expert advice—increases the potential hazard of crossed wires already existing from lighting installations.

Every amateur radio receiving station should be set up in accordance with the new regulations and inspected by the underwriting organization having local jurisdiction as soon after installation as possible, and should be altered to meet the organization's recommendations. Fire insurance policyholders are aware, of course, that according to the terms of their contract, alterations in the status of the risk—such as increase in the hazard, made without the consent of the insurer—automatically voids the policy.

It is probably quite unnecessary to say that this is not written with the intention of causing needless fright, or to dampen in the slightest the ardor of the great host of radio "fans." Numerous inventions, however, especially in the early stages of development, when they are emerging from the laboratory and entering the workshop of the world, increase in some degree the hazard of fire. This is scarcely to condemn new inventions, but rather to urge the exercise of care and judgment in their use, that the world may continue to enjoy the fruits of scientific genius without having to pay too high a price in life and property.—Safe Guarding America Against Fire.

**RIGHT OF WAY FOR FIRE APPARATUS**

An important case was decided in Lima, Ohio, by a jury trial when Chief John Mack, of the fire department, and the city of Lima were sued by a citizen who had been knocked down and injured by the chief's car while it was speeding to answer an alarm of fire. It was shown by the evidence at the trial that all due precautions had been observed and the approach of the chief's machine had been announced by the sounding of both siren and bell, so that pedestrians would be warned, and in spite of these facts the plaintiff, in his haste to cross the street, had stepped directly in front of the chief's car. The jury returned a verdict of "no cause of action."

This case is important in showing that when the fire apparatus in answering an alarm is passing through the streets, having observed all proper precautions in announcing its approach, it has the right of way, and it is the duty of pedestrians as well as vehicles to draw aside and let it pass. If the pedestrians place themselves in danger in spite of the warning they must take the consequences and bear the blame. Reasonably high speed is essential to answering of an alarm of fire by the apparatus, as delay may mean the loss of lives and property.

As the public streets are the only means by which the apparatus can reach the scene of the fire, it follows the fire fighters must, both for their own safety and for that of all others, have the right of way and that both vehicles and pedestrians, when the bell and siren sounds, must give the fire department plenty of room to pass. The decision of the jury in this case is important as upholding this principle.

**INFLAMMABLE ROOFS AND DEFECTIVE CHIMNEYS**

The shingle roof menace is still the leading problem in many cities throughout the country. A typical case is that of a midwestern city where recently at a conference on the best methods of Fire Prevention for the city a recommendation was made that it close a certain number of its

fire stations and increase the number of firemen on night duty. The fire chief in reply to this suggestion stated that it would be impossible to close any fire stations until the shingle roof hazard had been removed. At present he said the total number of alarms were over 1,500 and over 900 of these had been shingle roof fires. This proportion is by no means confined to the city in question, but will be found on examination to be typical of many others who are struggling with this same menace.

The other side of the picture is to be found in the report of a chief in a town not many hundred miles away from the one just referred to in which he reports no fires in 1921. Being questioned as to the method through which he attained this remarkable result, he said in reply, "I have done away with all fire hazards also the people have been putting on non-combustible roofs. Most of our folks are property owners and are very careful. Bad chimneys have been done away with, and new flue linings have been put in." There is very little doubt that the great fire losses of the country will never be reduced until the inflammable shingle and the defective unlined chimney flue are done away with.—Fire and Water Engineering.

**COLUMN OF SPARK**

**ARRESTERS**

More fire prevention means less fire loss.

Less fire loss means lower insurance cost.

A fire occurs every minute; prevent yours.

Amateur electric wiring—playing with fire fiends.

Be prompt in combating fire after it starts. Safer to teach prevention and therby combat it before it starts.

A \$10 fire extinguisher might save a \$10,000 dwelling; have one or more handy, it's worth while.

Fire is a foe to business and industry. Prevent the foe.

Clean up month—May is getting rid of lots of fire hazards. Why not every month?

If you have a pile of trash in your cellar, be wise; remove it before fire resulting from it removes you.

Allow your child to play with matches or fire if you want to gain sad experience. Carelessness of this character may cost the life of a child and a home. Be careful.

"Sparks on roof" caused 73 fires in Tennessee during the month of January; they also caused some in Minnesota. A real argument against the wooden shingle roof in this brief statement. Composition roofs resist the spark, wooden shingles assist it. Which?

The game of fire hazards is a dangerous one. Don't play it. It has caused many a person to "go broke." Fire prevention is easy to learn and you can play it safely in any home, even to the children.

These regulations are issued to secure field experience in advance of consideration of them as a revision of the present rules on radio signaling apparatus in the National Electrical Code.

## Tentative Regulations of the National Board of Fire Underwriters for RADIO SIGNALING APPARATUS

The recent widespread installation of radio receiving and transmitting sets necessitates the revision of present regulations.

The regulations that follow were drawn up by a special committee of the National Fire Protection Association, which is the authority for the National Electrical Code and whose findings are standards of engineering practice. Besides the underwriting organizations represented upon this special committee, engineers acting for the American Radio Relay League, American Telephone and Telegraph Company, Radio Corporation of America and the Independent Telephone Association, also participated.

These regulations are recommended for trial use pending the issuance of the next edition of the National Electrical Code.

The receiving set having an indoor antenna is considered devoid of hazard. With any receiving set the principal danger is from lightning brought in over the antenna to the equipment, or to some part of the building. Where there is no exterior antenna this hazard is removed.

One of the fire dangers connected with the present use of radio is the inclination of those interested to experiment with lightning circuits and other high voltage systems. Even the current from a six-volt storage battery is sufficient to cause fire if the terminals, or the wires leading from them, become crossed. Both these hazards have already resulted in fires.

All wiring should be in strict accordance with the provisions of the National Electrical Code and the entire radio installation should be examined by the local electrical inspection bureau before being placed in service.

### RADIO SIGNALING APPARATUS

*Note:—These rules do not apply to Radio Equipment installed on shipboard.*

*In setting up radio equipment all wiring pertaining thereto must conform to the general requirements of the National Electrical Code for the class of work installed and the following additional specifications:*

#### RECEIVING STATIONS

##### Antenna

a. Antenna outside of buildings shall not cross over or under electric light or power wires of any circuit of more than six hundred volts, or railway trolley or feeder wires, nor shall it be so located that a failure of either antenna or of the above mentioned electric light or power wires can result in a contact between

the antenna and such electric light or power wires.

Antenna shall be constructed and installed in a strong and durable manner and shall be so located as to prevent accidental contact with light and power wires sagging or swinging.

Splices and joints in the antenna span, unless made with approved clamps or splicing devices, shall be soldered.

Antennae installed inside of buildings are not covered by the above specifications.

#### Lead-In Wires

b. Lead-in wires shall be of copper, approved copper-clad steel or other approved metal which will not corrode excessively, and in no case shall they be smaller than No. 14 B. & S. gage except that approved copper-clad steel not less than No. 17 B. & S. gage may be used.

Lead-in wires on the outside of buildings shall not come nearer than four (4) inches to electric light and power wires unless separated therefrom by a continuous and firmly fixed non-conductor that will maintain permanent separation. The non-conductor shall be in addition to any insulation on the wire.

Lead-in wires shall enter building through a non-combustible, non-absorptive insulating bushing.

#### Protective Device.

c. Each lead-in wire shall be provided with an approved protective device properly connected and located (inside or outside the building) as near as practicable to the point where the wire enters the building. The protector shall not be placed in the immediate vicinity of easily ignitable stuff, or where exposed to inflammable gases, or dust, or flyings of combustible materials.

The protective device shall be an approved lightning arrester which will operate at a potential of five hundred (500) volts or less.

The use of an antenna grounding switch is desirable, but does not obviate the necessity for the approved protective device required in this section. The antenna grounding switch if installed shall, in its closed position, form a shunt around the protective device.

#### Protective Ground Wire

d. The ground wire may be bare or insulated and shall be of copper or approved copper-clad steel. If of copper, the ground wire shall be not smaller than No. 14 B. & S. gage, and if of approved copper-clad steel it shall be not smaller than No. 17 B. & S. gage. The ground wire shall be run in as straight a line as possible

to a good permanent ground. Preference shall be given to water piping. Gas piping shall not be used for grounding protective devices. Other permissible grounds are grounded steel frames of buildings or other grounded metallic work in the building and artificial grounds such as driven pipes, plates, cones, etc.

The ground wire shall be protected against mechanical injury. An approved ground clamp shall be used wherever the ground wire is connected to pipes or piping.

#### Wires Inside Buildings

e. Wires inside buildings shall be securely fastened in a workmanlike manner and shall not come nearer than two (2) inches to any electric light or power wire unless separated therefrom by some continuous and firmly fixed non-conductor, making a permanent separation. This non-conductor shall be in addition to any regular insulation on the wire. Porcelain tubing or approved flexible tubing may be used for encasing wires to comply with this rule.

#### Receiving Equipment Ground Wire

f. The ground conductor may be bare or insulated and shall be of copper, approved copper-clad steel or other approved metal which will not corrode excessively under existing conditions, and in no case shall the ground wire be less than No. 14 B. & S. gage except that approved copper-clad steel not less than No. 17 B. & S. gage may be used.

The ground conductor may be run inside or outside of building. When receiving equipment ground wire is run in full compliance with rules for Protective Ground Wire, in Section d., it may be used as the ground conductor for the protective device.

#### FOR TRANSMITTING STATIONS

##### Antenna

g. Antenna outside of buildings shall not cross over or under electric light or power wires of any circuit of more than 600 volts, or railway trolley or feeder wires, nor shall it be so located that a failure of either the antenna or the above-mentioned electric light or power wires can result in a contact between the antenna and such electric light or power wires.

Antenna shall be constructed and installed in a strong and durable manner and shall be so located as to prevent accidental contact with light and power wires by sagging or swinging.

Splices and joints in the antenna span shall, unless made with approved clamps or splicing devices, be soldered.

(Continued next month)

MINNESOTA FIRE COLLEGE, ROCHESTER, MINNESOTA, JUNE 15-16-17, 1922, INSTRUCTOR, LEON L. WOLF, CINCINNATI, OHIO. HELD IN CONJUNCTION WITH THE FIFTIETH ANNUAL MEETING OF THE MINNESOTA STATE FIRE DEPARTMENT ASSOCIATION UNDER THE AUSPICES OF THE STATE FIRE MARSHAL DEPARTMENT. ENDORSED BY THE STATE ASSOCIATION AT INTERNATIONAL FALLS, 1922. IT IS MOST IMPORTANT THAT EVERY FIREMAN DESIRING TO ENROLL IN THE CLASS BE AT THE ARMORY AT THE APPOINTED HOUR.

## Fiftieth Annual Convention Minnesota State Fire Department Assn.

Rochester, Minn., June 13-14, 1922

### PROGRAM

#### TUESDAY MORNING

9:30 A. M.—Call to order by President, Chief Wm. E. Cudmore. Invocation.

Music by Minneapolis Fire Department Band.

Convention Address of Welcome by Mayor C. D. Brown.

Response to Address of Welcome—Chief C. W. Ringer, Minneapolis.

Community Singing. Address: "The Road to Happiness"—Curtis Johnson, Rush City, Minn.

Meeting of Credentials and Executive Committees.

Adjournment.

#### TUESDAY AFTERNOON

1:30 P. M.—Call to order by President, Chief Wm. E. Cudmore.

Music by Minneapolis Fire Department Band.

Reading of Communications.

Report of Credentials Committee.

Address: "Fire Prevention"—T.

Alfred Fleming, Supervisor Conservation Department, National Board of Fire Underwriters, New York City.

Reports of the Secretary and Treasurer.

Vocal Selection.

Report of Topics Committee.

Adjournment.

5:00 P. M.—Parade of Delegates will start from Convention Hall.

7:00 P. M.—Round Table Discus-

sion at Convention Hall, with Chief Chas. W. Ringer of Minneapolis, presiding.

9:00 P. M.—Dancing on the Pavement.

#### WEDNESDAY MORNING

9:00 A. M.—Call to order by President, Chief Wm. E. Cudmore. Music by Minneapolis Fire Department Band.

Reports of Association Committees. Election of officers.

Address: "Practical Fire Fighting and Methods of Fire Fighting"—Captain J. J. Conway, Superintendent Cincinnati Salvage Corps.

Adjournment.

12:30 P. M.—Banquet for the Firemen at the State Hospital. Music.

#### WEDNESDAY AFTERNOON

2:00 P. M.—Call to order by President, Chief Wm. E. Cudmore.

Music by Minneapolis Fire Department Band.

Committee Reports.

New Business.

Address: "Fire Control"—Leon L. Wolf, Cincinnati, Instructor Minnesota Fire College.

Organizing the Fire College and Enrolling Delegates.

Adjournment.

4:30 P. M.—Free Automobile Trip for Delegates and Guests.

7:00 P. M.—Open-air Concert in the Park—Rochester Park Band.

9:00 P. M.—Dancing on the Pavement.

### FRIDAY, 9:00 A. M.

1. Taking hose lines up and down ladders.
2. Anchoring hose lines on ladders and roofs.
3. Lecture on First Aid Work: Fractures, how to know, treat, and the improvising of splints. Dislocations, sprains, strains and bruises. How to handle the injured, removing clothing, lifting and carrying.
4. Pompier ladder.
5. Life gun and life lines.
6. Standard knots for fire department work.
7. Hose Exercises. Taking hose lines up fire escape. Taking hose lines up outside of building if there is no fire escape.
8. Roof lines.
9. Unconsciousness and its causes: Injuries, diseases, lightning, electric shocks, fumes, etc.
10. Lecture on First Aid: Poisons, emetics, antidotes, etc. Asphyxia, artificial respiration methods. Improvised stretchers, etc.
11. Hose exercises continued.
12. Ground lines.
13. Deluge sets.

### SATURDAY, 9:00 A. M.

Hose exercises continued.

1. Carrying the hose up ladders.
2. Anchoring the hose on ground.
3. Anchoring of hose lines on roof and ground.
4. Gas masks.
5. Oxweld acetylene cutting apparatus.
6. Instructions in all classes of small extinguishers.
7. Squad Contest in laying lines from hydrant to fire.
8. Squad Contest in laying lines from hydrant to fire and taking lines to roof by use of ladders.
9. Squad Contest in laying lines from hydrant to fire and taking hose to roof without use of ladders.
10. Squad Contest in raising ladders and rescuing people from various floors.
11. Squad Contest in laying out and connecting up and putting in operation deluge sets.

**Note.**—All subjects will be lectured on and demonstrated by Mr. Wolf. Every man enrolling in the class should do so with the intention of attending every session and with his mind thoroughly made up that he is going through all work, participating in every evolution.

## MINNESOTA FIRE COLLEGE

### PROGRAM

#### THURSDAY, 9:00 A. M., AT THE ARMORY

1. Paper on Fire College Work by Leon L. Wolf, Instructor
2. Formation of Class.
3. Physical Exercises.
4. Lecture and demonstration on First Aid. The triangular bandage and demonstration of its numerous applications.
- Bleeding and how to control—Digital pressure, flexing and tourniquets.
- Wounds and their treatment.
5. Rescue Work—

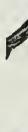
- Fireman's lift.
- Dead man's lift.
- Dead man's lift with gas mask.
- Invalid's lift.
- Rescue work with life belt and life line.
- Life net.
- 6. Ladder Exercises—  
Raising and lowering of all single ladders.  
Raising, lowering and carrying while raised 45, 50 and 55 foot Bangor ladders.  
Raising and lowering the 85 Aerial.

STATE OF MINNESOTA

## FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol



No. 40

Saint Paul

July 15, 1922

THE FOLLOWING NEWS ITEMS WHICH APPEARED IN THE TWIN CITIES' PAPERS SHORTLY AFTER THE FOURTH OF JULY EMPHASIZE THE IMPORTANCE OF CARRYING ON A CONSTANT CAMPAIGN AGAINST FIRE. IF THIS BULLETIN WERE DEVOTED ENTIRELY TO THE REPRINTING OF NEWS ITEMS GIVING THE ACCOUNTS OF FIRES OCCURRING IN MINNESOTA EACH MONTH IN WHICH LOSS OF OR INJURY TO LIFE FOLLOWED, IT WOULD BE TAXED FOR SPACE. THE INTRODUCTION OF THE SUBJECT OF FIRE PREVENTION INTO THE PUBLIC SCHOOLS OF THE STATE WOULD PROBABLY DO MORE THAN ANYTHING ELSE TO STOP THIS NEEDLESS LOSS OF LIFE AND WASTE OF PROPERTY.

FOURTH OF JULY CASUALTIES ARE NOT AS HEAVY AS THEY ONCE WERE, BUT WE WILL CONTINUE TO SACRIFICE HUMAN LIFE AND DESTROY THOUSANDS OF DOLLARS WORTH OF PROPERTY EACH YEAR AS LONG AS THE PUBLIC IS PERMITTED TO USE FIRE CRACKERS OR FIREWORKS IN ANY FORM IN CELEBRATING THE NATION'S BIRTHDAY.

THE SOLUTION TO THIS PROBLEM WOULD BE THROUGH THE PASSAGE AND RIGID ENFORCEMENT OF A LAW PROHIBITING THE SALE AND USE OF PYROTECHNICS IN ANY FORM TO OR BY THE PUBLIC.

## BOY SEVERELY BURNED

5-Year-Old Lad Near Death Despite Mother's Efforts.

Despite heroic efforts of his mother, who was painfully burned as she tried to beat out flames which enveloped his body, Isadore Klainboun, 5-year-old son of Mr. and Mrs. Samuel Klainboun, 608 Oak Lake avenue, Minneapolis, was reported near death at the General hospital today.

The child took some matches from the kitchen at his home and went out into the yard to start a bonfire. Burning paper set fire to the overalls he was wearing and ignited the matches in his pocket.

Mrs. Klainboun ran to the child, wrapped her skirt about him and rolled him on the ground, but he was unconscious when the emergency ambulance arrived.—The St. Paul Dispatch, 7-7-22.

## \$25,000 FIRE AT ORMSBY

Firecrackers Blamed for Destruction of Two Stores and Residence.

Ormsby, Minn., July 5.—An entire business block, containing a hardware store, general merchandise store and a residence, was destroyed by fire which was discovered at midnight Tuesday. The blaze, which caused a loss estimated at \$25,000, is said to have started from firecrackers.

This village being without fire protection, calls for assistance were sent to St. James, 12 miles away, and Monterey. Strenuous efforts of the fire fighters saved the State Bank from destruction. Much of the store goods was removed into the streets.

C. N. Sonnesyn of St. James is owner of the store building. The places destroyed include the L. H. Christianson general store, Kuehl Brothers' hardware store and the residence of Elmer Holte.—St. Paul Dispatch, 7-6-22.

## HOLIDAY DEATHS GROW

Girl Burned By Firecracker Seventh Fatality.

One more death resulting from accidents<sup>1</sup> of July 4 today brought the list of fatalities during holiday celebrations in and about St. Paul to seven persons. Six lost their lives by drowning.

Laura Zuela, 6-year-old daughter of Mr. and Mrs. Frank Zuela, 425 Mill street, died at 9:40 A.M. today at the City hospital from burns received Tuesday night. The child's dress was ignited by sparks from a fire cracker. Florian Rossmanith, 86 years old, 449 Main avenue, who was struck by an automobile at Seventh and Minnesota streets, Monday, died late Wednesday. Mr. Rossmanith had lived in St. Paul more than fifty years.—St. Paul Dispatch, 7-6-22.

## MATCH AT GAS TANK INJURES CAR OWNER

Carl Grenner, 24 years old, 324 East Franklin avenue, held a lighted match near the gas tank of his automobile last night and as a result was taken to the General hospital with burns about the face, head and hands. The burns are not serious.—Minneapolis Tribune, 7-13-22.

## FIRECRACKER BURNS CAUSE CHILD'S DEATH

Albert Lea, Minn., July 4.—Irene, the 5-year-old daughter of Mr. and Mrs. Sylvester Mulcahy of Albert Lea, died late this evening following burns received when a firecracker ignited her dress last night. Irene, with several other children was shooting off firecrackers in front of her home when her dress caught fire and before help could reach her, she was so badly burned about the body and head that death resulted.—Minneapolis Tribune, 7-5-22.

## FIRE MARSHAL BULLETIN

**State of Minnesota**  
**FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
 Office 330, State Capitol  
 Saint Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

SAINT PAUL, JULY 15, 1922

The Bulletin will be mailed to any address regularly upon request

**TO PROPERTY OWNERS:**

If you have not already done so you will find on inspection that your heating plant and the smoke pipe or flue leading from the plant to the chimney is in very bad condition.

You will find that the soot and ash accumulated in them during the winter months has become moist on account of the damp, cool basement and that this condition is causing the pipe to corrode and rust through.

It would pay to look into this matter at once and to make a practice of taking down the smoke-pipe in the spring, having it thoroughly cleaned out and the pipe should not be replaced until fall but stored in some dry place in the basement.

By following this practice the pipe will last indefinitely and it will be much easier to keep the heating plant in repair.

**FIRE HYDRANTS**

While standardizing fire hose fittings about the state, Mr. Kryger, who is supervising this work for the department, reports that in a number of towns he found the hydrant caps rusted in the threads, and in a number of cases the caps could not be removed without a great deal of force which loosened the nipples, and in several instances the cap and nipple were rusted together so badly that in attempting to remove the cap the nipple was twisted out of the hydrant.

In one town this condition was found in three hydrants in the outlying residential district. Upon investigation we found that these particular hydrants had not been used for years. This, however, is no excuse for permitting this condition to exist, for a fire hydrant should be examined several times during the year. It should be done at least every sixty days, and it wouldn't do any harm to make the rounds once a month. Every fireman knows how important it is to have a hydrant in perfect condition.

If the inspector will paint the threads of the hydrant with graphite thinned with lubricating oil the threads will be kept in good condition and the nipples will not rust in.

**FIRE LOSSES, MONTH OF MAY, 1922.**

	No. of Fires	Value on Bldgs. and Contents	Ins. on Bldgs. and Contents	Loss on Bldgs. and Contents
St. Paul	32	\$ 193,425	\$ 8,985	\$ 62,350
Minneapolis	36	1,055,200	129,725	887,700
Duluth	13	96,840	14,130	55,200
Outside Three Cities	110	1,207,271	294,170	808,123
Total	191	\$2,552,736	\$447,010	\$1,813,373

		MAY, 1921.		
St. Paul	27	\$1,167,900	\$ 40,020	\$ 626,260
Minneapolis	35	818,700	42,925	578,915
Duluth	21	410,912	72,672	306,425
Outside Three Cities	119	756,750	273,174	368,416
Total	202	\$3,154,262	\$428,791	\$1,880,016

**TOTAL LOSS FOR THE MONTH OF JUNE, 1922.**

St. Paul	39	\$ 539,685	\$ 23,925	\$ 581,250
Minneapolis	54	4,688,600	247,532	4,121,000
Duluth	8	49,050	9,121	24,300
Outside Three Cities	92	587,272	190,085	425,596
Total	193	\$6,137,507	\$471,263	\$5,152,146

**JUNE, 1921.**

St. Paul	30	\$ 406,725	\$ 98,885	\$ 125,750
Minneapolis	54	3,488,350	213,620	2,585,850
Duluth	7	345,700	273,580	364,380
Outside Three Cities	96	562,321	178,558	420,142
Total	187	\$4,803,096	\$764,643	\$3,496,122

**BUILDINGS CONDEMNED DURING THE MONTHS OF MAY AND JUNE, 1922.**

OWNER	LOCATION	KIND OF BLDG
Anna Grzywinski, Gustaf A. Zopfi, Peoples Ice Co. House, Peoples Ice Co. House, Mary Hener, John A. Lythe, Diocese of St. Paul, Anthony Lehane, Mrs. Mary Dean, Edward Hammer, Julius H. Held, R. R. Nelson, Morningside Land Co.	759 E. Rose St., 980 Rice St., 2132 University (rear), 2132 University (rear), 2144 University (rear), 2146 University Ave, Carroll and Virginia, 1873-75 University Ave., 309 Smith Ave., 987 W. 7th St., 791 Raymond Ave., 306 W. 4th St. (rear), 303 W. 4th St. (rear),	Shack Barn Dwelling Dwelling House Rooming House Vacant Church Barn House Barn Vacant Building Barn Barn
Zackary T. Mullen, C. A. Bockman, Clem Wall, Barbara Schroedl, Ben Meyer, Emil Riebe, John Schafer, J. H. McCormick, Ward Sherman, Baldwin Flour Mill Co., S. G. Comstock, Steen Paulson, Robert R. Kellam, Marion L. Dibble, Wm. Welti & Olmsted County Realty Company, Harriet Benjamin, J. W. Anderson, Lucy Kalb, Francis H. Williams, P. J. Hiecky,	42½ E. Superior St., Elysian, Faribault, Gibbon, Gibbon, Gibbon, Hinckley, Lake City, Moorhead, Moorhead, Moorhead, Rochester, Rochester, Rochester, Rochester, Rochester, Rochester, Rochester, Sanborn,	Barn Store Building Shed Barn Barn Livery Barn Vacant Building Livery Barn Harness Shop Mill Barn House Shed House and Barn Blacksmith Shop Barn Barn Barn Barn Ice House
John Coates, City of So. St. Paul, Loney Larson, Swan Gustafson Est.,	132-34 N. Concord St., 130 N. Concord St., Westbrook, Winthrop,	Store Building Store Building Blacksmith Shop Store Building

These regulations are issued to secure field experience in advance of consideration of them as a revision of the present rules on radio signaling apparatus in the National Electrical Code.

## Tentative Regulations of the National Board of Fire Underwriters for RADIO SIGNALING APPARATUS

(Concluded from last month)

### **Lead-In Wires**

h. Lead-in wires shall be of copper, approved copper-clad steel or other metal which will not corrode excessively, and in no case shall they be smaller than No. 14 B. & S. gage.

Antenna and counterpoise conductors and wires leading therefrom to ground switch, where attached to buildings, must be firmly mounted five (5) inches clear of the surface of the building, on non-absorptive insulating supports such as treated wood pins or brackets equipped with insulators having not less than five (5) inch creepage and air gap distance to inflammable or conducting material. Where desired, approved suspension type insulators may be used.

i. In passing the antenna or counterpoise lead-in into the building, a tube or bushing of non-absorptive insulating material shall be used and shall be installed so as to have a creepage and air-gap distance of at least five (5) inches to any extraneous body. If porcelain or other fragile material is used it shall be installed so as to be protected from mechanical injury. A drilled window pane may be used in place of bushing provided five (5) inch creepage and air-gap distance is maintained.

### **Protective Ground Switch**

j. A double-throw knife switch having a break distance of four (4) inches and a blade not less than one-eighth ( $\frac{1}{8}$ ) inch by one-half ( $\frac{1}{2}$ ) inch shall be used to join the antenna and counterpoise lead-ins to the ground conductor. The switch may be located inside or outside the building. The base of the switch shall be of non-absorptive insulating material. Slate base switches are not recommended. This switch must be so mounted that its current-carrying parts will be at least five (5) inches clear of the building wall or other conductors and located preferably in the most direct line between the lead-in conductors and the point where ground connection is made. The conductor from grounding switch to ground connection must be securely supported.

### **Protective Ground Wire**

k. Antenna and counterpoise conductors must be effectively and permanently grounded at all times when station is not in actual operation (unattended) by a conductor at least as large as the lead-in, and in no case shall it be smaller than No. 14 B. & S. gage copper or approved copper-clad steel. This ground wire need not be insulated or mounted on insulating supports. The ground wire shall be run in as straight a line as possible to a good permanent ground. Preference shall be given to water

piping. Gas piping shall not be used for the ground connection. Other permissible grounds are the grounded steel frames of buildings and other grounded metal work in buildings and artificial grounding devices such as driven pipes, plates, cones, etc. The ground wire shall be protected against mechanical injury. An approved ground clamp shall be used wherever the ground wire is connected to pipes or piping.

### **Operating Ground Wire**

l. The radio operating ground conductor shall be of copper strip not less than three-eighths ( $\frac{3}{8}$ ) inch wide by one sixty-fourth (1/64) inch thick, or of copper or approved copper-clad steel having a periphery or girth (around outside) of at least three-quarters ( $\frac{3}{4}$ ) inch (for example a No. 2 B. & S. gage wire) and shall be firmly secured in place throughout its length. The radio operating ground conductor shall be protected and supported similar to the lead-in conductors.

### **Operating Ground**

m. The operating ground conductor shall be connected to a good permanent ground. Preference shall be given water piping. Gas piping shall not be used for ground connections. Other permissible grounds are grounded steel frames of buildings or other grounded metal work in the building and artificial grounding devices such as driven pipes, plates, cones, etc.

### **Power From Street Mains**

n. When the current supply is obtained direct from street mains, the circuit shall be installed in approved metal conduit, armored cable or metal race-ways.

If lead covered wire is used it shall be protected throughout its length in approved metal conduit or metal race-ways.

### **Protection from Surges, Etc.**

o. In order to protect the supply system from high-potential surges and kick-backs there must be installed in the supply line as near as possible to each radio-transformer, rotary spark gap, motor in generator set and other auxiliary apparatus, one of the following:

1. Two condensers (each of not less than one-half ( $\frac{1}{2}$ ) microfarad capacity and capable of withstanding six hundred (600) volt test) in series across the line and mid-point grounded; across (in parallel with) each of these condensers shall be connected a shunting fixed spark-gap capable of not more than one thirty-second (1/32) inch separation.
2. Two vacuum tube type protectors in series across the line

with the mid-point grounded.

3. Non-inductively wound resistors, connected across the line with mid-point grounded.

4. Electrolytic lightning arresters, such as the aluminum cell type.

In no case shall the ground wire of surge and kick-back protective devices be run in parallel with the operating ground wire when within a distance of thirty (30) feet.

The ground wire of the surge and kick-back protective devices shall not be connected to the operating ground or ground wire.

### **Suitable Devices**

p. Transformers, voltage reducers, keys, and other devices employed shall be of types suitable for radio operation.

## OIL AND GAS HEATERS IN GARAGES

The number of cities of all sizes is increasing in which stringent laws are being placed upon the statute books prohibiting the setting in garages, automobile show rooms and stores, or any other establishments in which large quantities of gasoline is used or stored, of any form of coal or gas stove. Carelessness in connection with the handling of gasoline by many who are connected with the automobile industry has rendered such provisions absolutely necessary in order to protect these establishments from fire and explosion.

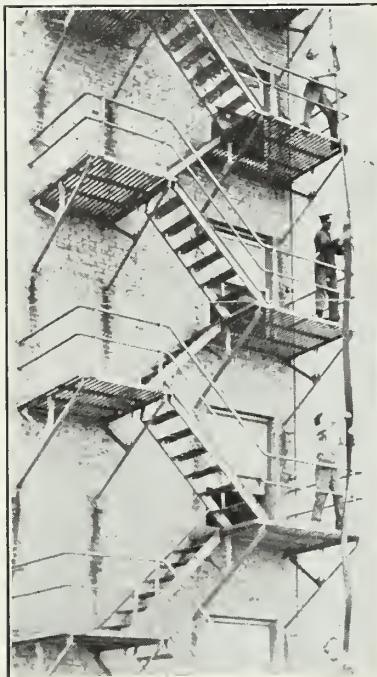
Not only is there danger of ignition from actual contact of flame with the gasoline, but the vapors arising from the liquid, especially if confined in a close room with a comparatively small amount of oxygen, are themselves highly inflammable and can carry the flame from an exposed light or fire to the gasoline, even if at the opposite side of a room. An exposed flame anywhere in a room containing gasoline is a serious menace.

It is an extraordinary fact that this hazard is so little appreciated by men brought constantly in contact with this dangerous and volatile substance. They seem rather to be willing to take the gambling chance that "nothing will happen" rather than to go to the trouble necessary to take the proper precaution which will avoid danger. It therefore becomes necessary, not only for the safety of these careless individuals, but also for that of the "innocent by-standers," that the municipality step in and see to it that they observe the proper care in handling the dangerous liquid necessary to their business. So they have only themselves to blame if the laws seem retrogressive to their liberties.

# FIRE MARSHAL BULLETIN



Taking Hose Line up Fire Escape to Roof of Kahler Hotel.



Showing Hose Line Raised with Use of Pike Pole. After one practice drill a line was taken to the roof of the Kahler Hotel (12 stories) and water delivered off the roof in less than a minute and a half.



Members of the St. Paul Fire Department who attended the Fire College, together with Leon L. Wolf, Cincinnati, instructor, and George H. Nettleton, State Fire Marshal. Reading from left to right—First Row: Captain Charles Kaufer, Lieutenant Henry Olson, District Chief Joseph Vennewitz, Mr. Nettleton, Captain Ben Levitan, Mr. Wolf, Captain James Flavin, Pipeman Joseph Heider, Captain Charles Neil. Second Row: Pipeman F. J. Hafner, Captain John Nelson, Truekman Emmett O'Connor, Pipeman Eugene Brennan, Lieutenant Edward Weeks, Captain William Sudith, Pipeman Fred L. Lundstrom and Lieutenant Walter Niles.

**T**HE Fiftieth Annual Convention of the Minnesota State Fire Department Association and State Fire College, held at Rochester, Minnesota, the week of June 13, was without doubt the most successful meeting of its kind ever held in the northwest. More than 500 delegates registered for the convention, and 230 enrolled in the Fire College.

The Convention was especially well engineered. The program was well balanced and went off smoothly. The entertainment was excellent, and the visiting guests were well taken care of. The city was most attractively decorated, all of which was due to the well directed efforts of Johnny Minor, chairman of the General Committee, Chief Cudmore and the boys

of his department.

The Fire College was larger than ever before, and the work put on by Mr. Leon L. Wolf of Cincinnati was highly instructive and well received by those who had the privilege of attending the sessions. Many departments were well represented, but the City of St. Paul had the largest enrollment, consisting of 15 men.

As a further illustration of what Chief Niles and Commissioner of Public Safety, Frank Mattson of St. Paul, think of the value of this training, arrangements were made to have two of the boys who attended the Rochester school take a more complete course in the Cincinnati Fire School, where they now are and have been for the last two weeks.



Ladder Exercises. Work with 55-foot Bangor.



Pompier Ladder Drill.

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STATE OF MINNESOTA

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# FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 40

Saint Paul

Aug. 15, 1922

## Fire Prevention Week

October 2nd to 9th, 1922

**Every Member in the Community Should be Interested in Fire Prevention Week and take Some Part in its Observance**

October 9th has for some years been observed as Fire Prevention Day, the Anniversary of the Great Chicago fire of 1871. With increasing fire losses, which in the past few years have averaged 15,000 lives and \$500,000,-000 of property in the United States and Canada, the necessity of Fire Prevention every day of the year has been more and more forcefully emphasized. But in addition to uninterrupted work throughout the year, concerted intensive campaigns are necessary to bring the importance of Fire Prevention before the public. Last year most communities devoted a week or more to Fire Prevention Campaigns, and at the annual meeting of the National Fire Protection Association, May, 1922, it was unanimously voted to designate October 2nd to 9th inclusive, 1922, as Fire Prevention Week. This gives a full week for the campaign, culminating on Fire Prevention Day, Monday, October 9th. (There is, of course, no objection to changing these dates if local conditions make it desirable.)

The aim of Fire Prevention Week is to bring to the people a realization of two fundamental facts: that the fire loss is everybody's loss and everybody's responsibility, and that the great majority of fires are preventable through the exercise of ordinary carefulness. All features of the Fire Prevention Week observance should emphasize these facts. It is because these fundamentals are not commonly realized that fire losses are so enormous, and it will be only when Fire Prevention Educa-

tion brings a general realization of them that losses of life and property can be measurably reduced.

It is very important to plan the campaign carefully in advance. A general committee, including representatives of all civic associations and clubs, public officials, educational and industrial interests, and the fire chief, should be organized at once and plan as extensive a campaign as possible. **EVERY MEMBER OF THE COMMUNITY SHOULD BE REACHED IN THE CAMPAIGN.** After a general plan has been evolved, subcommittees should be appointed for each phase of the work. Suggested subcommittee activities are as follows:

**Publicity.**—The publicity committee should secure the active interest and support of the newspapers so that the daily features of the campaign will be given publicity. A Fire Prevention supplement should be issued the final day of the campaign. A series of articles on fire losses and fire hazards in homes, schools, stores and factories, and pointing out need for local improvements, if issued for several weeks previous to the campaign, will be excellent publicity. This committee should also provide for posters, handbills, stickers, etc.

**Meetings and Speakers.**—This committee should arrange for special fire prevention meetings and should provide speakers for all club meetings, schools, radio broadcasting, etc.

(Continued on Page 3)

# FIRE MARSHAL BULLETIN

## State of Minnesota FIRE MARSHAL BULLETIN

**George H. Nettleton, Fire Marshal**  
Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

SAINT PAUL, AUG. 15, 1922

The Bulletin will be mailed to any address regularly upon request

No town or village so small but it can have some nature of fire protection, if only a well trained bucket brigade; a small chemical extinguisher on wheels; chemical fire extinguishers in all leading buildings and homes. Either of these might save the town. Don't wait until your building burns before you begin to think about fire protection.

Would you retire at night knowing that there was a robber, a thief or a murderer in your home? A defective flue is all of these and may rob you of your home, steal its contents and murder your family. Watch the flues. Last week a man and his family had to leave home through a window to save their lives, a defective flue was after them and the home was nearly gone when they were awakened by neighbors. Don't run such risks. Watch the flue at construction too, build it properly according to standard and be safe.

A step in the right direction and one that other Township Mutual Fire Insurance Companies could well afford to follow:

### BARN DANCES BANNED.

**Insurance to Be Void If Floors of Insured Buildings Are Used.**

Marshall, Minn., July 15.—The Norwegian Mutual Fire Insurance Co. resolved that public dances cannot be held in barns covered by policies of the company.

If a dance is held in any barn insured by the company, the policy will immediately become invalid. Fires following dances in barns led the company to take this action.

### "COAL OIL STOVES"

Watch closely the coal oil stoves. Fill them only in daylight, when the stove is not lighted; keep the wick well trimmed and never blow underneath the flame to extinguish it—turn the wick down, not too low, and blow from the top. To leave a burning oil stove in a tightly closed room for any length of time is inviting trouble. Be VERY CAREFUL that you do not, by mistake or otherwise, attempt to use gasoline for kerosene—funerals have been caused that way.

### WOMAN AND GRANDCHILD BURNED TO DEATH

#### Perish in Flames of Home While Firemen Work Unaware of Tragedy.

Little Falls, Minn., Aug. 9.—Mrs. C. O. Burt, 66 years old, and her granddaughter, Marie Anderson, 11 years old, were burned to death at their home on the north shore of Fish Trap lake at Lincoln, Morrison county, early today. They were alone in the house.

#### Bodies Discovered Later.

The tragedy was discovered by William Wolf, a neighbor, about 7:00 A. M. today. Noticing a blaze on the roof, he organized a bucket brigade and bought the fire, thinking no one was in the house, as he previously had tried to rouse the occupants, but received no response.

Later, the charred bodies of the two were discovered. It is believed they were overcome by smoke and were unable to escape from the house.

#### Husband Not at Home.

Mr. Burt, husband of the dead woman, left Tuesday night to visit his son at Hawley, this county. He was notified this morning of the tragedy and returned to Lincoln.

Besides her husband, Mrs. Burt is survived by four sons and one daughter. Funeral services for the two will be conducted from the home of her son-in-law, William Dere, at 10 A. M. Thursday. Interment will take place in Royerton.

The dead girl's father was killed in a railroad wreck in Montana about five years ago.—St. Paul Dispatch, 8-9-22.

### THE CARELESS SMOKER

A fool there was and his pipe he lit  
(Even as you and I)  
On a forest trail where the leaves were fit  
To become ablaze from the smallest bit  
Of spark—and the fool he furnished it.  
The day was windy and dry.

The forest was burned to its very roots,  
Even beneath the ground,  
With the flowers, the birds and the poor dumb brutes,  
Old hoary oaks, and the tender shoots  
Which might have made logs but for such galoots  
Allowed to wander around.

The lumberjack has now passed on.  
His pay-day comes no more,  
And the screech-owls haunt the camp at dawn,  
Where the cook's tin pan woke the men of brown;  
But the mill's silent, the trees are gone,  
The soil and the forest floor.

A deadly sight are those hills of rocks  
Which once were beds of green,  
No hope for the human, no food for the flocks.  
The floods must be held by expensive locks,  
And the harbor is silted to the docks,  
The ships no more are seen.

But the fool smokes on in the forest still,  
Leaves camp-fires burning too,  
While the patient public pays the bill  
And the nation's wealth is destroyed for nil.

If the law doesn't get him, Old Satan will  
When his smoking days are through.  
—HARRIS A. REYNOLDS.  
(With apologies to Kipling.)

### DEFECTIVE FLUE RESPONSIBILITY

Who is responsible for a defective flue? A Cincinnati woman is going to give the courts an opportunity to pass on the question. Through her attorney, she says that she occupied the lower floor of a Cincinnati building as a tenant, and a fire broke out in the chimney flue, destroying her furniture which was valued at \$120, and that she was damaged \$2,000 additional by reason of injury suffered from inhaling smoke and gases. She alleges that the flue was defective and asked \$2,120 damages from the owner of the property.

It is of course impossible for us to pass upon the facts in this case as to whether or not the flue was defective, but the logic of seeking damages because of fire arising from a defective flue is clearly sound. Any reasonably careful inspection of flues, such as should take place regularly at least once a year, will disclose whether or not a flue is defective. Among an enlightened population, a defective flue should no more be tolerated than an unsafe sidewalk. When the American people begin to do straight thinking on fire losses, they are going to hold responsible for the consequences, any property owners who indulge in the luxury of possessing defective flues which start fires.

### PERTINENT QUESTIONS AFFECTING YOU

Are the schools of two or more stories in your section provided with proper fire escape?

Is smoking prohibited in buildings or public halls where a large number of people congregate?

Are all the above buildings provided with chemical fire extinguishers of approved type?

Are the premises which you control kept free from trash of all classes?

Do the garages in your section allow smoking on the premises?

Do you stop the engine of your automobile before filling the tank and prohibit smoking about it at that time?

If not, unnecessary risks of losing life and property are being run. Just the kind that help to swell the enormous fire waste of the State.

Now let's all lend our efforts to conserve the fire waste;  
Let there be no camouflaging from the attic to the base.  
Every spooky little corner where the fire germs abide,  
Will be thoroughly renovated, and all rubbish put outside.  
Let our fight be systematic; let us study up and know  
All the scientific methods to combat this subtle foe.  
Let's assume responsibility for our divided part,  
The best way to beat a fire. We must never let it start.  
By Charles McIlhargey, Fire Chief, Hibbing, Minn.

# FIRE PREVENTION WEEK

October 2nd to 9th, 1922

(Continued from Page 1)

**Schools.**—The use of Home Inspection Blanks, addresses by firemen speakers, provision for regular Fire Prevention instruction throughout the year and a survey, with proper publicity, of the safety to life features of school buildings, are the important activities of the School Committee. "Safeguarding the Home Against Fire" is an excellent text-book.

Essays by school children with suitable prizes, and publication of winning essays in newspapers, are a valuable feature of the Fire Prevention Campaign.

**Clean Up and Inspection.**—This committee should provide for a general clean up and removal of rubbish in all homes and factories of the city. This work should take place in the first days of the campaign and be followed up by inspections to see that all hazards are eliminated.

**Ordinances.**—A committee should study all ordinances and building codes relating to fire safety and recommend needed improvements.

**Parade.**—The committee should arrange for an extensive parade, including all possible organizations. School children and Fire Departments are usually important features of such parades, but the Fire Chief should see to it that the department is not weakened during the parade.

**Retail Merchants.**—This committee should obtain the co-operation of the merchants through window displays and advertising. Small stickers for parcels are useful in conveying the Fire Prevention message to the public.

**Theatres.**—This committee should try to obtain Fire Prevention films for showing in local moving picture theatres. Lantern slides should be prepared and provided for all theatres.

**Churches.**—The committee should

see that every minister and Sunday School superintendent is provided with fire prevention material for use on the Sunday of Fire Prevention Week.

**Permanent Results.**—A committee composed of the general committee members and subcommittee chairmen should consider results of the campaign, and plan to make Fire Prevention permanent and continuous.

It is requested that a full account of the observance, its activities and results, be forwarded immediately following October 9th to George H. Nettleton, State Fire Marshal, State Capitol, St. Paul, Minn.

## PUBLICATIONS.

The National Fire Protection Association, 87 Milk Street, Boston, has a number of publications helpful for use in connection with Fire Prevention Week, which will be gladly sent on request.

The Association issued a **Fire Prevention Day Handbook** for use in the 1921 campaign. This handbook is again available. It contains detailed suggestions for all features of a campaign. Programs, parades, publicity, window displays, sample inspection blanks, etc. It is intended for those in charge of planning the campaign. Single copies will be supplied gratis; quantity price, 15 cents per copy.

An attractive two color **Fire Prevention Week Poster** has been prepared by the Association. This is 11 inches by 15 inches. There is space for printing local announcements if desired. Price \$1.75 per hundred, \$15 per thousand; 10 per cent discount for quantities of ten thousand; sample copies free. These posters can be furnished with the words, Oct. 2nd to 9th, 1922, or with other dates or

blank. When requested, local announcement text will be imprinted at a cost of \$3.50 per thousand, \$9.50 per five thousand, \$14.50 per ten thousand. Special arrangements will be made for very large quantities. The Fire Prevention Day Poster, issued by the Association in 1921, is also available and can be furnished under the same conditions as the Fire Prevention Week Poster. The Association has prepared sheets of small stickers to be used on letters, parcels, etc. Supplies of these are available upon request.

The National Board of Fire Underwriters, 76 William Street, New York City, 209 West Jackson Boulevard, Chicago, Ill., or 205 Merchants Exchange, San Francisco, Cal., has a number of helpful publications which will be gladly supplied on request. Among these are: a letter paper size reproduction of the red Fire Prevention Day Shield, useful as a poster or handbill; Home Inspection Blank for school children; Self-Inspection Blank for factories; Safeguarding the Home Against Fire, a fire prevention textbook for grade schools; and Safeguarding America Against Fire, a monthly bulletin.

The National Clean Up and Paint Up Campaign Bureau (member N. F. P. A.), Portiac Bldg., St. Louis, Mo., has prepared literature which will be found useful in connection with the clean up feature of fire prevention campaigns. This will be sent on request to the Bureau.

Samples of any of the above literature may be secured from George H. Nettleton, State Fire Marshal, St. Paul, upon request.

## TWO CHILDREN DIE OF BURNS IN SINGLE DAY AT ST. PAUL HOSPITAL.

St. Paul, Minn., Aug. 4.—Burns caused the death of two children, a few hours apart, at the St. Paul City hospital yesterday. Loane Shelton, 2-year-old son of Mr. and Mrs. M. B. Shelton, White, S. D., died shortly before noon after suffering 10 days, since he had been scalded when a pan of hot water was overturned on him at the home of his grandparents, Mr. and Mrs. Charles Roth, 223 University avenue east. Lucille Sofi, 8-year-old daughter of Tony Sofi, living near Lake Gervais, in Little Canada, died at 6:10 p. m., from burns received early Wednesday morning when her dress ignited from an oil stove while preparing breakfast.—Minneapolis Tribune, 8-4-22.

## FOUR BOYS DIE IN FIRE

Campbell, Minn., Children Played With Matches in Barn, Belief.

Campbell, Minn., Aug. 10.—Four children were burned to death in a fire which destroyed a barn on the farm of Ralph Stevens here today. The dead:

John, Ralph and Albert Stevens, 9, 7 and 3 years old, respectively, and Edgar Wray, 7 years old.

The Stevens boys' parents are Mr. and Mrs. Ralph Stevens. They left Thursday for the Twin Cities by automobile, and it is not known here where they were staying.

It is supposed the children caused the fire while playing with matches and the fire spread so rapidly they were unable to escape.—Pioneer Press 8-11-22.

## OUT-DOOR FIRES.

Watch your out-door fire. Already engine sparks, bonfires and flying brands are reaping their summer toll.

Weeds are being cut and burned; corners cleared out, and out-door fires are being lighted by cannery, campers, berry pickers, fishermen and land owners.

Keep weeds and grass cleared away from elevators, barns, etc.

Railways should do their part, and farmers should plow furrows between their right-of-way fences and the ripening grain.

Remember that a grass fire will out-run a horse.

Thresher crews, also, will soon be in the fields.

# FIRE MARSHAL BULLETIN

## BASEMENT FIRE HAZARD

### How Property Owners Can Reduce a Prolific Source of Danger.

Basement fires constitute a serious hazard which demands greater attention on the part of property owners. Most of them are due to waste paper, packing boxes, excelsior and rubbish which should not be allowed to accumulate. "Out of sight is out of mind," and many business men would be astounded if they realized the dangerous conditions they are permitting to exist in the portion of their premises usually most unguarded. Fires starting in basements frequently get such a start that they are a serious menace to the lives of those on the floors above. The remedy recommended by the fire prevention experts is better housekeeping in the basements, enforced by regular and frequent inspections by the owner or responsible employees.

The danger is greatest in the basements which are used only for storage. All sorts of rubbish accumulates, dries and becomes inflammable, and the hazard is increased by the frequent custom of keeping oils and other dangerous materials there. Many fires start from spontaneous combustion, from defective wiring or from the matches and stubs of careless smokers, and if excelsior, old boxes and waste paper are scattered about the blaze gets such a start that there is little chance of saving the property. The fire runs up elevator shafts and stairways, and in many cases serious loss of life has followed.

Owners of property should see that waste paper and packing material is taken care of and removed regularly, and that rubbish is not allowed to accumulate. They should make it their duty to see that this is done, and should also make certain that inflammable and explosives are properly safeguarded, that the wiring is standard, that smoking is not allowed, and that the general rules of good housekeeping are observed. By doing this they will protect life and property, keep insurance rates down, safeguard their neighbors and the community, and do their share in reducing the preventable fire waste of the country.

### FIRE ESCAPES.

The ordinary step fire escapes are iron contrivances fastened on the outside of buildings. They are put up under contract, and may often be found without a guide-book to the building. They are blazes—semaphores—to show that human lives inside are in danger. A cautious person should never go inside a building supplied with these fire escapes. They are not put up by accident, as many suppose, but for definite reason, and are used for four purposes:

1. They remove the monotony of a building by lending a touch of quaintness to the architectural scheme.

2. They may be used by a limited number of athletes, who are capable of worming themselves out on them for reviewing parades and processions.

3. They are placed at such a great height from the sidewalk that they are always a perplexing problem to burglars who desire to scale them.

4. They are a great technicality evader; for, with one painted on his factory, a factory owner can go home and sleep the sleep of the just, knowing that though a fire break out he cannot be held responsible.

—JUDGE.

### TOY PICTURE PROJECTOR HAZARD

Increasing use, in the home, of small motion picture machines is creating a real and serious fire hazard to life and property. These toy projectors are reasonably safe from ignition of the film in themselves if they use a small incandescent lamp. The models using a kerosene lamp are equally safe as regards ignition of the film by the ray of light, but are dangerous on account of the open flame and use of matches.

The greatest hazard is in ignition of film by matches, cigarettes, contact with hot objects, such as steam

radiators or electric lamp globes or open flame. The fire hazard is multiplied enormously if the reel is unrolled or scraps of film are exposed to ignition. Children do not realize the inflammability of the ordinary nitro-cellulose film. It has been seen unrolled also in department stores with grave liability of a panic.

Motion picture film should be handled with the GREATEST CAUTION as it is highly INFLAMMABLE. Film should always be kept in approved metal cans when not in use, and cans should be kept away from open fires, stoves, lamps, steam radiators, etc. Observance of these precautions may prevent a serious fire.

Do you know the telephone number or call of the nearest fire station? Learn it at once.

A tree will make a million matches, but a match will start a fire that will burn a million trees.

A little fire is quickly trodden out; which being suffered, rivers cannot quench.—Shakespeare.

### TOTAL LOSSES FOR THE MONTH OF JULY, 1922.

	No. of Fires	Value on Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul .....	43	\$ 325,986	\$78,165	\$ 98,596
Minneapolis .....	41	1,027,800	36,330	781,025
Duluth .....	9	178,750	15,467	53,875
Outside .....	122	574,914	260,774	353,322
Total .....	215	\$2,107,450	\$390,736	\$1,286,818
<b>JULY, 1921.</b>				
St. Paul .....	33	\$1,534,200	\$107,125	\$1,351,900
Minneapolis .....	59	1,930,400	75,880	1,581,152
Duluth .....	6	150,800	14,160	117,850
Outside .....	115	761,832	411,443	435,757
Total .....	213	\$4,377,232	\$608,608	\$3,486,659

### BUILDINGS CONDEMNED DURING THE MONTH OF JULY, 1922. Minneapolis.

OWNER	LOCATION	KIND OF BLDG
N. Johnson, Peter Szczech, John W. Healy, Western Business Exchange,	1 and 3 34th St., 723 Main St. N. E., 40 Royalston Ave. No., 3051-53 4th Ave. So., <b>Duluth.</b>	Barn Vacant Building Dwelling Vacant Building
L. A. Gunderson, Houlton Investment Co., Mrs. Katherine Payant,	354 6th Ave. E., Elk River, Faribault,	Barn Warehouse Dwelling
W. F. Murphy, Ed Cunningham, John Berg, D. M. Hanson, L. M. Townsend,	Faribault, Faribault, International Falls, Ivanhoe, Ivanhoe,	Barn Vacant Building Vacant Building Store
Mrs. George H. Johnson, Chas. Kiewel, Louis Struett, Jacob Kiewel Brewing Co., Theo Hamm Brewing Co., Joseph H. Capser, Joseph H. Capser, Joseph H. Capser, Mary Buscho,	Redwood Falls, Roseau, Perham, Sauk Rapids, South St. Paul, St. Joseph, St. Joseph, St. Joseph, Wells,	Store Vacant Building Shacks Barn Vacant Building Dwelling
Nels O. Hall & John M. Hall, D. H. Kern,	Wells, Wells, Wadena,	Ice House Store Hotel

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# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

UNIVERSITY OF ILLINOIS LIBRARY  
OCT 7 1922

No. 42

Saint Paul

Sept. 15, 1922

State of Minnesota  
EXECUTIVE DEPARTMENT

## Proclamation

Year by year, the destruction of property by fire in America has been mounting until the total annual loss now is about \$485,000,000. This means a waste each day of an average of \$1,370,000 of resources which we can ill afford to lose.

In our own state, in a period of five years, the fire waste reached a total of nearly \$42,000,000. We say and hear much of a shortage of houses, yet we calmly permit the destruction by fire of property equal in value to 8,374 five thousand-dollar homes.

Worse than the destruction of valuable property is the toll of human life through fire. The average number of persons burned to death each day in the United States is stated to be forty-eight.

Nearly all these fires could be prevented, if greater care were taken in the construction of buildings, if rubbish and litter were removed from houses and places of business, if children and grown people were thoroughly educated in the handling of fire and taught the importance of extreme carelessness.

NOW THEREFORE, I, J. A. O. Preus, Governor of Minnesota, do hereby designate

OCTOBER 2<sup>ND</sup> TO 9<sup>TH</sup>, 1922  
AS  
**FIRE PREVENTION WEEK**

City officials, civic and commercial organizations, school officers and teachers, are hereby requested and urged to arrange meetings and exercises for the study of fire prevention problems, and for impressing upon the public the seriousness of the waste caused by fire and the need of the utmost care protecting life and property from damage. Editors and public speakers are requested to call special attention to this subject during that week. Our fire waste is already too large; we cannot permit it to increase. By united effort we can reduce it from year to year.

IN WITNESS WHEREOF, I have hereunto set my hand, and affixed the Great Seal of the State this twentieth day of September, 1922.

[Seal]

*J. A. O. Preus*

Governor of Minnesota.

Attest:

*Minister*

Secretary of State.

**State of Minnesota  
FIRE MARSHAL BULLETIN**

**George H. Nettleton, Fire Marshal**  
Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

SAINT PAUL, SEPT. 15, 1922

The Bulletin will be mailed to any address regularly upon request

**PROCLAMATION**

"It has become a nation-wide custom to observe Oct. 9, anniversary of the great Chicago fire of 1871, as national Fire Prevention day, and in recognition of this excellent precedent, I am here-with directing the attention of all citizens to the desirability of continuing the observance this year and making it as impressive as possible.

"It has long been a reproach to our country that our fire waste figures year after year which are not approached in any other country in the world. Mindful of the fire waste so huge as to be appalling there ought to be especial effort to minimize such losses.

"To this end, therefore, I, Warren G. Harding, president of the United States, appeal to the public authorities of the country and to citizens generally, to take steps for the observance of Monday, Oct. 9, as Fire Prevention day."

W. G. Harding,  
President United States  
of America.

**INEXPENSIVE FIRE GUARD**

An ordinary oil or vinegar barrel kept filled with brine, to a consistency which prevents freezing, is an inexpensive fire guard about any premises, whether it be dwelling, barn or workshop.

Ever notice how much easier it is to destroy young, tender weeds in the spring than it is in midsummer? The same rule applies to fire hazards. Get at them when they are small.—Kansas Bulletin.

**LAWS REGULATING THE CONSTRUCTION, MAINTENANCE, AND INSPECTION OF DRY CLEANING AND DRY DYEING BUILDINGS AND ESTABLISHMENTS.—CHAPTER 450, SESSION LAWS 1921.**

Section 1. For the purpose of this act a dry cleaning and dry dyeing business is defined to be the business of cleaning, or dyeing cloth, clothing, feathers, or any sort of fabrics or textiles by the use of carbon bisulphide, gasoline, naphtha, benzine, benzol, or other light petroleum or coal tar products or inflammable liquid, or cleaning or dyeing by processes known as dry cleaning and dry dyeing, where inflammable volatile substances are used.

No person, firm or corporation shall advertise as conducting a dry cleaning or dry dyeing business, or either, until such person, firm or corporation shall have made application to the State Fire Marshal for permission to engage in such business and paid the fee as hereinafter provided.

Sec. 2. No building or establishment shall be used for the business of dry cleaning or dry dyeing as above defined, or for the storage of inflammable or volatile substances for use in such business until an application for permission to do so shall have been filed with and approved by the state fire marshal of the State of Minnesota, and on blanks provided by him for that purpose.

Sec. 3. Upon the filing of every such application, the applicant shall pay to the state fire marshal a filing and inspection fee of ten (10.00) dollars.

Sec. 4. When any application is filed with the state fire marshal and the fee paid as above mentioned the state fire marshal by himself, his deputies or assistants shall make an inspection of such building, buildings or establishments, and if the same conforms to the requirements of the rules which may be prescribed by the state fire marshal for such places, then the state fire marshal shall issue a permit to the applicant for the conduct of such business, which permit shall extend until the first day of January next after the date of the issuing of same.

Sec. 5. The permits may be renewed at any time within thirty days after the termination thereof by the filing of an application for such renewal and the payment of a fee of five dollars therefor, provided the applicant for such renewal permit has complied with the provisions of this act, and with the laws of the State of Minnesota, and the ordinances of the municipality where the business or establishment is located.

Sec. 6. All permits must be exhibited for inspection to the state fire marshal or any of his deputies or assistants whenever the same are re-

quested, and no one except the person to whom the same are issued shall have the right to operate a business or establishment under any permit.

Sec. 7. Permits may be refused suspended, or revoked by the state fire marshal, for fraud in procuring the same, a violation of any law of the State of Minnesota, or ordinance of the municipality in which the business is located, or a violation of any rule or regulation lawfully provided for the conduct of any business or establishment.

Sec. 8. All buildings or establishments used or to be used for the purpose of the business of dry cleaning or dry dyeing as above defined shall be of fire resisting design and construction and not to exceed three stories in height and shall be without basement, cellar or open space below the ground floor, the workroom where all dry cleaning is done to be located on the ground floor. Such building must also comply in all other respects with the provisions of this act. Fire resisting construction is defined to consist of the use of fire resisting material as follows: brick, hollow tile, steel and concrete or reinforced concrete. Any building in which gasoline, naphtha, benzol, carbon bisulphide or light petroleum or sons now engaged in said business. coal tar products are used in connection with a dry cleaning or dry dyeing business must be at least fifteen (15) feet from any other building or lot occupied for business, dwelling, manufacturing, or storage purposes, except the building used for operating a dry cleaning or dry dyeing busi-

Sec. 9. All walls of such dry cleaning and dry dyeing buildings or establishments shall be of brick laid in cement mortar, or of reinforced concrete not less than twelve inches in thickness, or stone, laid in cement mortar not less than sixteen inches in thickness, or of other non-combustible and fire-resisting material constructed of a thickness of not less than twelve inches. The roof of such building shall be of fire resistive construction.

Sec. 10. There shall be no sewer connection with such dry cleaning or dry dyeing building or establishment, and the floor of the same shall be of concrete construction laid not lower than the surface of the earth surrounding the wall, and be pitched at such grade from all of its walls as to secure perfect drainage, flow of

(Continued on Page 3)

# FIRE PREVENTION WEEK

October 2nd to 9th, 1922

## HOW IT SHOULD BE OBSERVED

Fire Prevention Week—for it will be a week this year, not, as formerly, a single day—gives promise of being observed next month on a scale never before attained. It is clear that within the space of a week much more can be accomplished than was possible when everything had to be hurriedly concentrated in one short day.

In 1921, President Harding issued the opening call in the form of a proclamation to the people, and the governors of forty-three states followed suit, while mayors in many sections of the country issued local manifestos. This year it is confidently expected that the nation's response will be virtually unanimous.

Added impetus is certain to result this year from the active enlistment of the Chamber of Commerce of the United States, which is calling upon the nearly 1,400 local bodies composing its membership to lend every possible assistance in furthering the program. The United States Department of Agriculture, the United States Bureau of Education and the American Red Cross are co-operating again this year and will aid materially as they have in the past.

If any proof of the need of observing Fire Prevention Week is required, it resides in the most recent estimate by the Actuarial Bureau of last year's contribution to the national ash heap—\$485,000,000. Only once in the 156 years of this republic has this stupendous figure been exceeded, and that was in 1906, the year of the San Francisco conflagration. The pres-

ent estimate is one of the heaviest.

drags on our economic progress. If it is allowed to continue at that appalling pace the country will, as time goes on, find itself seriously handicapped in competing with the nations of the world.

During Fire Prevention Week, therefore, every conceivable means should be used to acquaint the public with the enormity of this drain and with the fact that it represents, in the truest sense, an absolute waste—wealth permanently withdrawn from the country's resources. People should be made familiar with the common fire hazards, and the ways and means for removing or guarding against them indelibly impressed upon the minds of everyone.

Carelessness and ignorance go hand in hand as the chief causes of our huge fire waste. These two malignant foes are difficult to dislodge; only one weapon is at all potent against them: public education. Fire Prevention Week provides an opportunity to focus public attention upon the need for this vital teaching.

Fire is essentially a community interest, since every outbreak affects directly or indirectly every individual member; that is a truth which has waited long years for popular recognition. Now it is commencing to be realized, slowly, but with surety. This is a point that deserves to be stressed at all times and never with deeper earnestness than during the occasion that is soon to open.

Within the last three of four years marked growth has been shown in the number of different organizations that actively engage in

the promotion of fire prevention. Fire Prevention Week, this year, will in all probability show further expansion in this direction.

The large opportunities for reaching into the home presented this year by the phenomenal development of the radio should be grasped wherever possible by fire chiefs, insurance agents and others entering into the campaign, and a short talk broadcast.

## HOW IT SHOULD BE OBSERVED.

City and village officials urge observance of the day and encourage Fire Prevention in every way.

Civic organizations and Fire Prevention Committees plan programs for the day.

Inspections by Fire Departments.

Merchants, manufacturers and citizens should join hand in hand in cleaning up their premises and freeing the town from Fire Hazards.

Every school should conduct Fire Prevention Day exercises and hold fire drills.

Public meetings should be held in the town or community meeting place.

Boy Scouts should help in making inspections, cleaning up premises and distributing Fire Prevention Day literature.

Clean up and remove—inflammable material from attic, closet, basement, store room and shed.

Clean chimneys, repair smoke flues, heating plants.

close automatically, the automatic release to consist of fusible links which will melt at one hundred twenty (120) degrees Fahrenheit. Such windows shall be covered with 12x12 mesh, or equivalent brass wire screen to prevent the entrance of sparks.

Sec. 13. As a means of fire extinguishment in any such buildings, the same shall be equipped with a high pressure boiler of sufficient size and horse power, such boiler to be located in a fire-proof building at least ten (10) feet from any building used for the purpose of dry cleaning or dry dyeing, such boiler to be connected with a two-inch steam supply pipe in the dry cleaning or dry dyeing room so installed as to give as nearly as possible an equal distribution.

(Continued on page four)

## LAWS REGULATING

(Continued from page 2)

all liquids to an underground cement lined pit or well on the outside of said building, and of sufficient capacity below the level of the floor of said building to hold twice the quantity of liquids that may be used or kept in said building at any one time, the top of said pit or well to extend not less than twelve inches above the level of the floor of said building, and to be provided with a tight fitting cover, and kept locked when not in use.

Sec. 11. Ventilating apertures of size not less than sixty square inches in area shall be placed in the walls of such dry cleaning and dry dyeing buildings at or near the level of the

floor, and spaced not over six feet apart from center to center; such openings shall be covered with 2x2 wire mesh, number sixteen galvanized wire web or its equal, and shall be kept clear of all obstructions and such ventilating apertures shall be so arranged as to completely change the air volume every five minutes while the plant is in operation. Other ventilating systems may be substituted for the above, which will completely change the air every five minutes while the plant is in operation, provided same are approved before constructed by the state fire marshal.

Sec. 12. Skylights and windows must be of wired glass set in steel frames, skylights to be stationary and for lighting purposes only. All windows shall be so arranged so as to

# FIRE MARSHAL BULLETIN

## LAWS REGULATING (Continued from Page 3)

tion of steam when turned in will immediately fill the entire room; such steam pipes shall be provided with perforations or jets of one-quarter of one inch in diameter, equally spaced, so that there is one opening to every twenty-five square feet of floor space; a standard globe valve shall be placed in the steam service line or lines connected to this perforated steam pipe outside of the building, and to be accessible for operation in case of fire. The steam supply for such pipes shall be continually available for service while the plant is in operation, and shall be sufficient to completely fill the room space in less than one minute, and cause the flow of steam sufficient to keep the room space full with steam for period of at least thirty minutes.

Sec. 14. All steam or hot water pipes must be protected by wire screen or otherwise so as to prevent contact of pipes and inflammable goods. All windows, doors or other openings in the dry cleaning building or drying rooms within one hundred feet of exposed openings or combustible structures or materials shall be provided with wired glass in metal frames, or fireproof shutters, doors or covers. All doors shall be arranged for ready opening from either side in case of emergency.

Sec. 15. One approved hand chemical extinguisher especially efficient for such conditions shall be provided for each five hundred feet of floor space.

Sec. 16. All dry cleaning, washing, extracting and redistilling shall be carried on in closed machines which shall be fluid tight; the outside, or shell of washers shall be made of metal and shall have hinged metal doors and shall be arranged so that in case of an explosion the doors will automatically close; the inside or cylinder of the washers may be made of wood. The transfer of all liquids shall be through continuous piping, and all outlet or drain lines shall be drained by gravity to settling or storage tanks. No dry cleaning liquid shall be settled in any open or unprotected vessels or tanks. All piping and all metallic parts of each machine shall be properly grounded by at least number ten copper insulated wire to a water pipe or other grounded device. Scrubbing and brushing may be performed in the dry cleaning rooms, but not more than one gallon of volatile fluid shall be used in any one container, and shall be so used in a metallic pan or container, and such volatile substance shall be returned to the settling or storage tanks as soon as the brushing or cleaning operation is completed.

(To be Continued in the next issue)

## JUST ONE MINUTE!

You can read this in one minute.

By the time you reach the last line, property worth \$923 will have been destroyed by fire somewhere in the United States.

Minute after minute, day after day, on the average, this appalling pace keeps up, to a grand yearly total of \$485,000,000.

That, at least, was the record in 1921. What the showing will be this year, and in the years to come depends, in large measure, on YOU..

Ninety per cent of all fires are preventable, for they are due to carelessness.

Take a look in your cellar, your attic, that closet. Clear out the rubbish—the old stuff stored away because "maybe some day we'll find a use for it." Many fires about the house are born in trash piles.

While insurance marks the difference between protection and destitution, every American home has its treasured possessions whose worth cannot be computed in terms of money and can never be replaced.

A minute's thought now may save the patient accumulations of a lifetime from the ravages of fire.

After all, it's chiefly a matter of protecting your own dwelling and those whose presence there makes it HOME.

Isn't it worth a minute to you?

## THE FIRST TIME IT EVER HAPPENED

Fire occurred at 8:44 A. M. on the 12th day of September, 1922, at Currie, Minn., in which Mr. Emil Boures, aged 55, was fatally burned. He was rushed to the Slayton Hospital, where he died seven hours later.

Mr. Boures was preparing breakfast. He had placed kindling wood in the kitchen stove, and was in the act of pouring kerosene over the wood when the explosion occurred.

Mr. Boures, while relating his story to a representative of the State Fire Marshal's Office just before he died, remarked that on the previous day he had bought one gallon of kerosene from a garage as he had in the past number of years. As the night was cool Mr. Boures filled the stove with coal in order to keep a fire all night. Some of the coal was still smoldering in the stove in the morning.

Kerosene when poured over live coals forms a highly explosive gas. Mr. Boures without thought of the

## A FIRE PREVENTION WEEK PROGRAM FOR SCHOOLS

October 9th this year falls on Monday, so that it will be possible to conduct the school observance of Fire Prevention Week on the final day and thus most effectively drive home its lessons. It may, however, be deemed advisable by the teacher to spread out the program to cover the entire Week. Programs, will, of course, be arranged according to the wishes of the teachers and the facilities of the schoolrooms, but Safeguarding America Against Fire, in response to a widespread desire, is following its usual custom of offering a few suggestions.

Three items are judged to be of the first importance, viz.:

1. A talk by the teacher;
2. "The Trial of Fire" (copies which may be secured from the National Board);
3. Practical Advice, including Fire Alarm instruction by a Fireman.

Three additional items, which are desirable if time will permit, are:

4. Girls Essay on "Why Our Homes Are Dangerous";
5. Boy's Essay on "Fire as Servant and Master";

6. A Fire Drill.

It is advised that parents be invited to attend, since a valuable purpose of the observance is that of arousing and maintaining the interest of the older people

danger proceeded to kindle the fire with kerosene. The explosion was almost instantaneous and the stream from the kerosene can was ignited and the flame drawn up into the can which also exploded, throwing the burning kerosene over Mr. Boures clothing.

"I've done this for years," remarked Mr. Boures, "and it was the first time it ever happened."

Mr. Boures stated that his end was near and he was ready to go, being conscious to the time of his death. He died about an hour after telling his story to the representative of the State Fire Marshal's Office. A watch and the container of the oil tell the story. The watch stopped at 8:44-20, due to the intense heat, and the can shows the seam tore out where the burning fluid spread over his clothes, burning them from his body and completely burning the entire body with the exception of a small spot on his left foot, the size of a dollar.

Views of the fire show the results of the explosion. The entire interior of the kitchen was badly burned, the windows blown out and flames shot out of the door.

Mr. Boures was a single man and is survived by a sister in France and one in Italy.

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UNIVERSITY OF ILLINOIS LIBRARY

# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 43

Saint Paul

Oct. 15, 1922

## IT IS UNLAWFUL

TO BURN BRUSH OR SLASHINGS IN THIS STATE WHEN THE GROUND IS NOT COVERED WITH SNOW WITHOUT FIRST OBTAINING A BURNING PERMIT FROM YOUR LOCAL FIRE WARDEN OR OTHER AUTHORIZED FOREST OFFICER. IF YOU DON'T KNOW WHO THE FIRE WARDEN IN YOUR TOWNSHIP IS CONSULT THE NEAREST FOREST RANGER OR WRITE THE STATE FORESTER, OLD CAPITOL, ST. PAUL. THIS LAW WAS PASSED TO PROTECT THE LIVES AND PROPERTY OF THE SETTLERS OF NORTHERN MINNESOTA. IT IS FOR YOUR PROTECTION AS MUCH AS THAT OF YOUR NEIGHBOR. YOUR EARNEST CO-OPERATION IS SOLICITED.

## "NEVER HAPPENED BEFORE."

ON THE MORNING OF SEPTEMBER 12, 1922, EMIL BOURES, AGE 55, OF CURRIE, MINNESOTA, WAS FATALLY BURNED WHILE KINDLING A FIRE IN THE KITCHEN STOVE TO PREPARE HIS BREAKFAST.

IT HAD BEEN MR. BOURES' CUSTOM FOR YEARS TO USE KEROSENE IN KINDLING HIS FIRE. ON THIS PARTICULAR MORNING THERE HAPPENED TO BE A FEW LIVE COALS IN THE FIRE BOX FROM THE NIGHT BEFORE. KEROSENE POURED OVER THESE COALS GENERATED A HIGHLY COM-

BUSTIBLE GAS WHICH IGNITED SPONTANEOUSLY. THE FLAME WAS DRAWN INTO THE CAN WHICH EXPLODED WITH TERRIFIC FORCE, THROWING THE BURNING CONTENTS ABOUT THE HOUSE AND OVER MR. BOURES, BURNING HIS CLOTHING ENTIRELY AWAY. THERE WAS BUT ONE PLACE ON HIS BODY, A SPOT ON HIS LEFT FOOT ABOUT THE SIZE OF A DOLLAR, THAT WAS NOT BURNED. HIS WATCH TELLS THE SILENT STORY OF THE TIME THE ACCIDENT OCCURRED. MR. BOURES WAS CONSCIOUS UP TO THE TIME HE DIED. ONE OF HIS LAST REMARKS WAS, "I'VE DONE THIS FOR YEARS AND IT IS THE FIRST TIME IT EVER HAPPENED."

## MATCHES.

MATCHES ARE INDISPENSABLE. IT HAS BEEN SAID THAT MORE MATCHES ARE SOLD IN THE UNITED STATES THAN IN ALL THE REST OF THE WORLD.

WE USE MORE THAN 700,000,000 EACH DAY. NEARLY 500,000 FLAMES ARE STRUCK EVERY MINUTE AND THERE IS NOT ONE OF THESE THAT WOULD NOT DEVELOP INTO A DESTRUCTIVE FIRE IF IT HAD A CHANCE.

THERE ARE TWO KINDS OF MATCHES—THE STRIKE ANYWHERE AND THE SO-CALLED "SAFETY MATCH" MADE TO BE STRUCK ONLY UPON THE BOX, BUT THERE ARE GOOD MATCHES AND BAD MATCHES IN BOTH

CLASSES. IN OTHER WORDS, WHILE THE SAFETY MATCH AS A RULE IS SAFER THAN THE KIND FIRST MENTIONED A POORLY MADE "STRIKE-ON-THE-BOX" MATCH MAY BE MORE DANGEROUS THAN A WELL MADE STRIKE ANYWHERE MATCH.

PURCHASE AND USE ONLY THE APPROVED BRAND. ALWAYS AVOID BRANDS WHICH BREAK, LOSE THEIR HEADS, OR GLOW AFTER BEING BLOWN OUT. LOOK FOR THE LABEL OF THE UNDERWRITERS LABORATORIES. GIVE PREFERENCE TO THE STRIKE-ON-THE-BOX, OR SAFETY MATCH, BUT IN CASE OF BUYING THE STRIKE ANYWHERE MATCH GET ONE IN WHICH THE WHITE HEAD IS SURROUNDED BY A BLACK BULB

NEVER THROW A MATCH UNTIL IT IS EXTINGUISHED.

IF MATCHES ARE SPILLED, PICK UP EVERY ONE.

KEEP MATCHES OUT OF REACH OF LITTLE CHILDREN.

KEEP THEM IN COVERED BOXES OR DISHES AWAY FROM HEAT, AND OUT OF THE REACH OF RATS AND MICE.

STRIKE MATCHES AWAY FROM YOU. IF STRIKING ON A BOX, FIRST CLOSE THE BOX.

STRIKE DOWNWARD ON THE BOX.

REMEMBER MATCHES DO NOT THINK WITH THEIR HEADS. WHEN YOU USE THEM YOUR HEAD HAS TO DO ALL THE THINKING

# FIRE MARSHAL BULLETIN

## State of Minnesota FIRE MARSHAL BULLETIN

**George H. Nettleton, Fire Marshal**  
Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

SAINT PAUL, OCT. 15, 1922

The Bulletin will be mailed to any address regularly upon request

### FIRE HAZARDS OF THE FUEL SHORTAGE.

A few fire hazards are being introduced by the fuel shortage. Much of the soft coal is being stored in the basements of dwellings, apartment houses and mercantile buildings and on the premises of factories. Spontaneous combustion in this is likely to start fires, and great care should be shown in the selection of coal and in its storage and use.

The west will not receive its usual amount of anthracite this year, and soft coal must be used in stoves and furnaces constructed for other fuel. The large amount of soot deposited by soft coal is apt to clog the smoke pipes and chimneys and cause forcing of the furnaces, while the fumes and gases from soft coal will have a deteriorating effect upon the mortar in chimneys and thus lead to defective flue fires.

A number of householders are investigating the possibility of using fuel oil and kerosene burners in their furnaces, because of the difficulty in securing hard coal and their unwillingness to use soft coal because of the dirt and soot. This also will introduce serious fire hazards, because of the storage of oil on the premises, and the danger of feed pipes bursting and starting fires. No such appliance should be considered without ascertaining whether it complies with the Underwriters' requirements.

Fire hazards which endanger the homes should be watched with special care, as the mothers and children run the greatest risk. All heating appliances should be installed and operated with constant attention to the unusual risk due to the change in fuel, as well as to their ordinary dangers. Careful inspection should be made of all stoves, furnaces and flues before using them in the fall.

### LAWS REGULATING THE CONSTRUCTION, MAINTENANCE, AND INSPECTION OF DRY CLEANING AND DRY DYEING BUILDINGS AND ESTABLISHMENTS.—CHAPTER 450, SESSION LAWS 1921.

(Continued from Bulletin 42)

Sec. 17. Settling tanks shall be constructed, located and vented essentially as given for the storage tanks. At the close of the day's operations all liquid contained in washers, extractors, stills or otherwise shall be returned to the stock of settling tanks. The location of all tanks, buried or otherwise, and their contents and hazards shall be plainly marked by signs as approved by the state fire marshal.

Sec. 18. No gas or gasoline engine, steam generator or heating device nor any electrical dynamo or motor shall be located, maintained or used inside of nor within a distance of ten feet of any building used for the business of dry cleaning and dry dyeing as above defined, except that an electrical motor may be placed within such ten feet, but without a solid fireproof wall.

Sec. 19. The lighting of such building shall be secured only by keyless socket incandescent electric light fixtures with glass or porcelain receptacles, and all switches, cut-offs or fuses used in the installation or operation of such lights shall be located and operated from the outside of such building. The interior electrical equipment must conform with the most advanced stage of the art at the time of installation.

Sec. 20. The heating of such building shall be secured only by the use of steam or hot water systems.

Sec. 21. Drying rooms if under the same roof as the dry cleaning and dry dyeing rooms must be separated from such rooms by a fire-resistive wall, the entrance of such drying room or rooms shall be provided with standard, self-closing fire doors. Means for the ventilating of such drying room shall conform to the conditions provided in relation to dry cleaning and dry dyeing buildings, and the provision for the presence of steam jets for fire extinguishment must be complied with. If the drying room be a separate building, it must conform in all respects of construction and equipment to the conditions named relative to dry cleaning and dry dyeing buildings as above described.

Sec. 22. All volatile substances received for use in the business of dry cleaning and dry dyeing as above defined shall be stored in steel tanks, the shell of which may not be less than three sixteenths of an inch thick, the exterior of such tank to be

coated with an approved rust preventative, and all joints in same shall be caulked in an approved manner.

Sec. 23. No storage tank shall be placed, constructed or maintained under a public sidewalk or in a sidewalk area.

Sec. 24. All such tanks shall be buried underground to such a depth as to secure a covering of earth of at least two feet above the top of the tank at the surface level of the ground.

Sec. 25. All such tanks shall be provided with a vent pipe not less than one inch in diameter, extending from the top of the tank to the outer air, and discharged at a point not less than two feet above the roof of said dry cleaning and dry dyeing building, and also be provided at the discharge end with an inverted "U" cap or gooseneck.

Sec. 26. All such tanks must be provided with a filling pipe of not less than one inch in diameter, extending from the top of the tank shell to within one inch of the bottom of the tank. Such filling pipe must be laid with inclination toward the tank to secure proper drainage; the intake end of said filling pipe shall be fitted with a controlling feed cock or valve which shall be kept closed except while in use, and the intake end of the pipe above such cock or valve shall be provided with a screw cap securely in place by an iron or other metal chain; such screw cap to be securely screwed on the feed pipe inlet when the same is not in use. Both the controlling cock or valve and the feed pipe inlet must be enclosed in an iron box or hood set level or above the surface of the ground, and be kept securely locked when not in use; such feed pipe inlet and controlling cock or valve shall in no case be located inside of any building.

Sec. 27. All pipes connected to the said storage tanks used in said dry cleaning and dry dyeing building must enter or be attached to the same at their tops; service pipes carrying volatile substances from the storage tanks to the dry cleaning and dry dyeing machines or apparatus shall extend from the top of the tank shell, and the controlling cock or valve in said service pipes shall be kept closed when not in use.

Sec. 28. No volatile substances shall be carried or converted into the dry cleaning and dry dyeing building or any of its machines or apparatus,

(Continued on Page 3)

(Continued from page 2)

or be returned to the storage tanks from such devices except through service pipes as above described; the movement of transmission of such volatiles through such service pipes shall be secured by pumps or siphon only; such device to be so located as to insure the return of all volatile substances remaining in the service pipes when delivery is shut off to the storage tanks by gravity.

Sec. 29. No carbon, bi-sulphide, gasoline, naphtha, benzol or light petroleum or coal tar product used in the dry cleaning and dry dyeing business shall be distilled or re-distilled in connection with the said dry cleaning or dry dyeing business except in a building of fire-proof construction, which building must be located more than fifteen (15) feet from any other building or lot occupied for business, dwelling, manufacturing or storage purposes, except the buildings used in said dry cleaning and dry dyeing business.

Sec. 30. The provisions of this act shall not be held to apply to any building, business or establishment now in use, so as to cause the same to be rebuilt, remodeled, or repaired so as to conform to the provisions hereof, but should any building or establishment, or part thereof, be reconstructed, rebuilt or repaired, the same shall be so constructed, built or repaired in conformity to the provisions hereof. Nothing in this act shall be held to in any manner limit the laws which provide against fire hazard in this state. Nothing in this section shall permit any person to operate a business or establishment mentioned in this act without first securing a license as provided herein, for so doing, but the provisions of this section shall be given full consideration by the state fire marshal in issuing licenses to per-

Sec. 31. Should any building, business or establishment of dry cleaning or dry dyeing as herein defined, be discontinued or not carried on in any building which does not conform to the provisions herein set forth, for a period of three months, such business shall be considered as having been abandoned, and before the same can again be carried on in such building, the said building must be so constructed, repaired or rebuilt as to conform to the provisions of this act.

Sec. 32. All buildings, structures, pipes, storage tanks, electric wiring, connections and apparatus constructed and used in said dry cleaning and dry dyeing business shall be inspected and approved by the state fire marshal or deputy or assistant before being used in said dry cleaning and dry dyeing business.

Sec. 33. Any person or persons being the owner, occupant, lessee or agent, who shall violate any of the provisions of this act or fail to comply therewith, or who shall violate or fail to comply with any order or

regulation made thereunder, within ten days or who shall build in violation of any detailed statement of specifications or plans submitted and approved thereunder, or any certificate or permit issued thereunder shall severally for each and every such violation and noncompliance respectively be guilty of a misdemeanor, and upon conviction thereof shall be fined for the first offense not less than ten dollars nor more than two hundred dollars, and for the second offense shall be fined not less than fifty dollars nor more than five hundred dollars, and imprisoned in a county jail or workhouse not to exceed six months.

Sec. 34. It shall be the duty of the state fire marshal, his deputies and assistants, to enforce the provisions of this act, and he shall have the same power and authority in the enforcement of the provisions hereof as are given to the state fire marshal under the provisions of the state fire marshal law, namely sections 5129-5166 of the General Statutes of Minnesota, 1913.

Sec. 35. All fees, penalties, or forfeitures collected by the state fire marshal, his deputies or assistants under the provisions of this act, shall be paid into the state treasury.

Approved April 23, 1921.

### MR. FARMER.

There is no one to whom the telephone means more than it does to the man on the farm, to him it is not a luxury. It is a great convenience, it is true, but that it is a necessary thing and once installed it becomes indispensable.

The man living in the country today is no longer isolated from civilization, for the motor car, good roads and the telephone have almost eliminated distance.

The time that the telephone plays its most important part is in emergencies when every second counts, when life and death may be a matter of minutes, or when a man's property is at stake. That is when the telephone proves to be most valuable.

It seems almost unbelievable, but, nevertheless, it is true, that there are people who do not appreciate the worth of the telephone, because through carelessness fires have been started by thoughtless persons; fires unguarded have destroyed telephone lines, putting them out of commission.

It is imperative that every citizen, and this includes those residing in town as well as country, co-operate in an effort to prevent fires that damage or destroy this very important means of communication.

### MINNESOTA FIRE LOSSES FOR FIVE YEARS (1916-1920 inclusive) AND YEARLY AVERAGES.

#### STRICTLY PREVENTABLE CAUSES.

Defective Chimneys and Flues .....	\$1,384,484
Average .....	276,896
Fireworks, Firecrackers, etc. ....	62,867
Average .....	12,573
Gas, Natural and Artificial....	109,292
Average .....	21,858
Hot Ashes and Coals, Open Fires .....	451,094
Average .....	90,218
Ignition of Hot Grease, Oil, Tar, Wax, Asphalt, etc....	63,691
Average .....	12,732
Matches, Smoking .....	2,431,939
Average .....	486,387
Open Lights .....	258,641
Average .....	51,728
Petroleum and its Products .....	732,489
Average .....	146,497
Rubbish and Litter .....	275,432
Average .....	55,086
Sparks on Roof .....	626,177
Average .....	125,235
Steam and Hot Water Pipes .....	29,897
Average .....	5,897
Stoves, Furnaces, Boilers and Their Pipes.....	2,327,606
Average .....	465,521

#### PARTLY PREVENTABLE CAUSES.

Electricity .....	\$2,906,591
Average .....	581,318
Explosions .....	152,155
Average .....	30,431
Exposure (Including Conflagration) .....	17,730,478
Average .....	3,546,095
Sparks from Machinery .....	792,888
Average .....	158,577
Incendiary .....	329,620
Average .....	65,924
Lightning .....	787,626
Average .....	157,525
Miscellaneous Known Causes .....	468,128
Average .....	111,050
Sparks from Combustion .....	555,250
Average .....	111,050
Spontaneous Combustion .....	3,114,614
Average .....	622,922
Unknown Causes (Probably Largely Preventable) .....	6,284,426
Average .....	1,256,885
Total .....	41,874,976
Average .....	8,374,995

# FIRE MARSHAL BULLETIN

## INSPECT SMOKE AND FURNACE PIPES.

In the fall and early winter special attention should be paid to stove pipes, furnace pipes, smoke vents and flues. Where these are of metal they frequently rust, come apart or deteriorate during the summer, and when fires are started up in the fall, or they are put to a severe test during the first very cold weather, a blaze is likely to result. Now that fire prevention and safety first have become national slogans, the importance of careful supervision of heating apparatus and flues should be recognized by every good citizen, and a thorough inspection should always precede the first use of heating apparatus.

There is special need of unusually careful attention to flues, smoke-pipes and heating apparatus generally this season, because of the abnormal fuel conditions. Millions of householders will be compelled to use soft coal who have heretofore used hard coal, and the change will necessarily introduce many serious fire hazards, unless great care is taken to see that flues and smoke-pipes are kept clear and that proper safeguards are provided for the other dangers which will develop.

Fires due to faulty pipes and smoke pipes have been unusually numerous this season, especially where there was dampness. Where the surface was already corroded by the heat and fumes, the dampness soon rusted the metal so that a pipe which looked all right on the outside would collapse with the slightest strain. The danger of such pipes in basements, often near wooden partitions and ceilings, is evident, but only an inspection would reveal the interior weakness.

These warnings should be especially emphatic as to dwellings, for basement fires are apt to get under dangerous headway before they are discovered, and when they occur at night, life as well as property is endangered.

Special attention should also be paid to furnace pipes and smoke vents in churches and schools, because of the large numbers of people whose lives are at risk. School Boards and church trustees, working on the theory of personal responsibility for preventable fires, should pay special attention to these danger points, and if necessary, the metal smoke pipes leading from the furnace to the chimney should be replaced each year to insure safety. An ounce of prevention is worth a pound of fire extinguishment.

## FIRE LOSSES FOR THE MONTH OF AUGUST, 1922.

	No. of Fires	Value on Bldgs. and Contents	Loss on Bldgs. and Contents	Ins. on Bldgs. and Contents
St. Paul	33	\$264,940	\$27,620	\$201,635
Minneapolis	55	1,903,200	69,301	1,580,855
Duluth	9	125,400	9,820	89,905
Outside Three Cities	120	549,816	324,971	338,382
Total	217	\$2,843,356	\$431,712	\$2,210,777

### AUGUST, 1921.

St. Paul	38	\$458,895	\$35,150	\$186,440
Minneapolis	47	2,452,150	106,215	2,155,120
Duluth	3	17,000	3,540	18,000
Outside Three Cities	111	682,469	383,067	378,260
Total	199	\$3,610,514	\$527,972	\$2,737,820

## BUILDINGS CONDEMNED DURING THE MONTHS OF AUGUST AND SEPTEMBER, 1922.

OWNER	LOCATION	KIND of BLDG.
Samuel Fulton	Albert Lea. Lot 8, Block 15, Orig. Plat.	Livery and Feed Barn
H. H. Wilcox	Lots 1, 2, & 3, Block 15, Orig. Plat.	Feed Barn
Brownton State Bank	Brownton. W½ of Lot 5, Block 13, Orig. Plat.	Frame Store Bldg.
Mrs. Katherine Kanover	Lot 6, Block 5, Lake Eddy Add.	Frame Blacksmith Shop
Clara Guesner	Chaska. East End of Lot 9, Block 27.	Frame Barn
W. S. Whitney	Crookston. Lot 3, Block 45, Orig. Plat	Frame Dwelling
R. H. Newton	Lots 7 & 8, Block 15, Davis Add.	Dwelling House
Betsy Ostgaard	Lot 5, Block 5, Clements 3rd Add.	Frame Dwelling
Sarah Altman	Duluth. Lot 188, Block 27, Duluth Proper, 2nd Add., 1121-23 Michigan Street.	Frame Store Bldg.
Sarah Litman	Block 30, East 5th Street, 1st Div.	Frame Barn
James McArton	Lot 11, Block 55, 1st Add., 122 57th Ave. S., West Duluth.	Dwelling House
Ole Stevens	Hanley Falls. Lots 19 & 20, Block 11, Orig. Plat.	Frame Barn
Frank Wild	North Mankato. Lot 1, Block 2, Orig. Plat.	Two Frame Bldgs.
E. P. Berkner	Sleepy Eye. Lots 6, 7, 8, & 9, Block 4, Breckenridge Add.	Frame Barn
Fred Crumlett	Lots 13 & 14, Block 2, Breckenridge Add.	Frame Barn
Mrs. John Dersch	Stillwater. Lot 16, Block 2, Sinclair's Add.	Frame Dwelling
John Dondslinger	St. Peter. Lot 6, Block 9, Dodd's Add.	Frame Dwelling
George Newbury	Thief River Falls. Lots 13, 14, & 15, Block 57, Orig. Plat.	Frame Barn
John Paul	Wabasso. Lot 11, Block 4, Orig. Plat.	Frame Barn

STATE OF MINNESOTA

# FIRE MARSHAL, BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 44

Saint Paul

JAN 9 1923  
No. 15, 1922

## FIREMEN IN SOUTHWESTERN MINNESOTA BLAZE THE TRAIL. NEW ORGANIZATION GETS A FINE START.

The Southwestern Firemen's Association which was organized in June, 1922, held its second meeting at Windom, Minnesota, on the 11th day of October. The meeting was held in the new home of the Windom Fire Department, a headquarters building that any town would feel proud of, modern and well appointed, and a proof that the city of Windom appreciates the services of her volunteer fire fighters.

The meeting was called to order by the president of the Association, S. A. Brown, Chief of Fire Department at Windom. There were 75 firemen present representing the following towns:

Blue Earth, Currie, Fairmont, Hardwick, Heron Lake, Holland, Lake Wilson, Luverne, Mankato, New Ulm, Pipestone, Slayton, Sleepy Eye, Storlien, Springfield, Triumph, Walnut Grove, Wilmont and Windom.

All firemen present were duly elected delegates. Mayor J. A. Crane, of Windom, extended a most cordial welcome to the visiting firemen. Mr. Wm. F. Sanger, of Windom, also extended greetings and praised the work of the Association.

One of the first matters of business was the report read by Mr. Pierce submitting the recommendations of the Executive Committee on the proposed Constitution and By-Laws of the Association for the consideration and approval of the convention which after some discussion were approved as read. Mr. Hagar then read the proposed resolution prepared by the Executive Committee which was as follows:

We, the members of the Executive

Committee of the Southwestern Firemen's Association, here assembled do hereby recommend the passage of the bill, relating to State Aid and Assistance for members of Volunteer Fire Departments. As this bill did not include cities of the 2nd and 3rd class a motion was made and seconded that it be amended to include 2nd and 3rd class cities and the association go on record as favoring its passage so amended; carried.

tion; carried.

Mr. Webber of Fairmont made an interesting talk on Fire Department Troubles, quoting from an article on that subject appearing in the "American City."

At three o'clock State Fire Marshal George H. Nettleton addressed the convention on matters of general interest, especially emphasizing the importance of standardizing fire hose fittings and the care of fire hydrants.



SECOND ANNUAL MEETING OF SOUTHWESTERN MINNESOTA FIREMEN'S ASSOCIATION.

We, the members of the Executive Committee of the S. W. Minnesota Firemen's Association here assembled do hereby recommend that the word May be changed to Shall, in the law authorizing the levy of the local tax for the benefit of Relief Association.

Motion made and seconded that this Association go on record as favoring the change and that a copy of the bill showing the change desired be sent to every State Senator and Representative in the Second Congressional District. Carried.

We further recommend that all the small towns be urged to organize Fire Departments. Motion made and seconded that we adopt the resolu-

Mr. Nettleton also referred to the introduction of the subject of fire prevention in the public schools of the state, urging every fireman present to co-operate in an effort to have such a law passed by the next session of the legislature.

Mr. Nettleton reminded the convention that the Fire Marshal's office is at the service of the Association or its individual members at all times. Mr. Nettleton has the distinction of being elected the first honorary member of the Association.

Mr. Brown of Pipestone talked on the handling of traffic in his city dur-

(Continued on Page 3)

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**HAZARDS OF FARM LIGHTING**

In a report recently published by the U. S. Department of Agriculture, it is stated that 79 per cent of American farm houses are still lighted by unquated kerosene lamp. The significance of this statement can best be realized by those who have been compelled to use this smelly, unsatisfactory and dangerous form of illumination. But the statement takes on a more serious meaning when it is remembered that a large percentage of fires in farm houses, and more particularly barns, are caused by kerosene lamps and lanterns.

The significance of the farm fire to the chief of the municipal fire department is greater than may on first thought, be supposed. Farm fires mean long runs into the country, often upon roads that are by no means the best, and sometimes the worst, only to find on arrival that the department is too late. In most cases, city or town departments are not compelled to answer alarms from outlying districts, but comparatively few chiefs will refuse to give aid within a reasonable distance of the municipality.

Electricity is the most satisfactory means of illumination for the farmer, providing the wiring and installation of equipment meets the requirements of the National Electrical Code, and when properly installed it is as safe and inexpensive for him as it is for the city and town farmer to a city brother. The hazard of the electric light plant on the farm is the same as that of the stationary gasoline engine and the automobile, both of which are owned by farmers to the extent of hundreds of thousands. And that hazard is to be found in the careless storage and handling of the fuel.

In other methods of farm lighting, however, there are dangers to the unwary. This is especially true of some vapor and acetylene systems, masquerading under the name of safety, that are even more dangerous than the old-fashioned lamp, especially in the hands of those ignorant of their hazards. A campaign of education by the fire chief who has a large farm territory contiguous to his city or town would be an excellent move and would easily repay any time and trouble that it would entail.

**OIL BURNING EQUIPMENTS  
FOR DOMESTIC USE**

**INFLAMMABLE FILM  
RESOLUTION**

WHEREAS, the use of inflammable films in theatres and other public places is detrimental to public safety and largely increases the fire risk, and

WHEREAS, the use of films in theatres, schools, churches and lodges is continually increasing, and

WHEREAS, the use of inflammable films has been condemned by this Association, the National Board of Fire Underwriters, and the National Fire Protection Association, and

WHEREAS, the prohibition of the use of such films in some states and not in others does not remedy the evil, and

WHEREAS, the prohibition of the transportation of inflammable films by the National Congress will accomplish the desired result, and compel the manufacturers of films to manufacture films which are non-inflammable;

NOW BE IT THEREFORE, RESOLVED, By the Fire Marshals' Association of North America, in convention assembled, that the National Congress be requested to enact a law prohibiting the transportation of inflammable films in interstate commerce effective January 1, 1925, and that a copy of this resolution be sent to the President and Vice President and to each Senator and Representative in the National Congress.

**RUBBISH**

"TELL ME WHAT YOU DO WITH YOUR RUBBISH," SAID A FIRE CHIEF, "AND I WILL TELL YOU WHAT SORT OF A CITIZEN YOU ARE."

IF YOU DISPOSE CAREFULLY OF ALL YOUR OLD RUBBISH, YOUR OIL RAGS, AND YOUR WORN-OUT CLOTHING, AND ALL RUBBISH OF THAT KIND, YOU ARE A GOOD CITIZEN, BUT IF YOU ALLOW THEM TO ACCUMULATE YOU NOT ONLY ARE A BAD CITIZEN BUT A MENACE TO YOUR NEIGHBOR.

DO NOT ALLOW RUBBISH TO ACCUMULATE ANYWHERE IN THE HOUSE OR NEAR IT.

PROVIDE YOUR HOME WITH A METAL RECEPTACLE WITH COVER FOR THE ACCUMULATION OF RUBBISH.

Oil burning equipments for domestic use, both for hot-air furnaces and hot-water plants, are now being installed by the score, doubtless due to the coal shortage and the high price of fuel—with the additional incentive that oil burners may be operated with time and labor saving elimination of the dirt and dust that more or less must accompany the handling of ashes.

It is also true that oil burners for domestic use are more or less in the experimental stage and aside from their operative efficiency, there is doubtless in many cases a material increase in the fire hazard through their installations by the inexperienced and thereafter their operation by those who know little or nothing of how to run such a plant.

For the average householder, doubtless in some cases eliminating much future trouble, it would be well to notify the company carrying the fire insurance on the house that an oil burner equipment is about to be installed, mentioning what burner is to be used and the firm installing it. As domestic oil burners are a comparatively new thing, "safety first" is a good rule for every agent to advise his clients who are considering heating their homes by oil.

**THE FIGHT AGAINST ARSON**

The advancing tendency toward incendiarism in a certain class of dishonest business men, who attempt to recoup their losses by the destruction of their highly over-insured property by fire, can only be controlled in one way. That way is to make this course so hazardous to the individual adopting it that it will be abandoned. In order to accomplish this the fire chief must have the co-operation, not only of the other branches of the state and city governments—the police and the fire marshal—but also that of the insurance companies and their agents. In fact the latter is fully as essential as the former.

If the insurance companies will bravely fight the claims of the arsonist and stand ready in suspicious cases, to go to the limit in pushing their defense against fraudulent claims, the trade of incendiarism will be abandoned. It is because only too often it is so easy to collect insurance money, that so many cases of fraudulent fires have occurred.

Co-operation of the insurance companies with the chief of the fire department is, alas! only too rare, and therefore serves to emphasize how much could be accomplished in Fire Prevention were it more general.

**NEED OF BETTER  
PROTECTION FROM  
FIRES ON THE FARM**

By Secretary of Agriculture Wallace.  
Prepared for and circulated during  
Fire Prevention Week, but the ad-  
vice should be followed the year  
around.

The farmer should be particularly interested in Fire Prevention Week. While the prevention of fires is everywhere more effective and less costly than reliance on means of control and extinction, this is doubly true in the case of the farmer. The urban dweller has his fire department and his city water system on which a measure of reliance can be placed. The farmers, as a rule, are sadly lacking in effective means of checking a fire once it has gained headway. A far larger percentage of farm fires, for this reason, represent total losses than is the case with city fires.

The needless destruction of property is always a calamity. Even if the owner should be fully protected by insurance, which the farmer seldom is, the loss burden is merely shifted to others and the country is poorer by the amount of the loss. The total annual fire loss of farm property alone exceeds \$50,000,000. No complete figures are available.

The commercial fire insurance companies, together with some of the larger mutuals which report to the Actuarial Bureau of the National Board of Fire Underwriters, show annual losses paid on farm property for recent years of about \$20,000,000; while the two thousand local farmers' mutual insurance companies, few if any of which report to the Bureau, show similar losses of about \$12,000,000. When it is further taken into consideration that the insurance covers as a rule only from two-thirds to three-fourths of the value of the property, and in addition, that a very large percentage of farm property subject to fire is as yet uninsured, it will readily be seen that the estimate of an annual \$50,000,000 farm-fire loss is an understatement rather than an exaggeration. In addition to the property loss, thousands of lives are sacrificed every year in accidental fires. Even where no loss of life occurs, suffering and privation are common results of fire disasters.

Farm fires, as well as those occurring in cities, are to a very large extent preventable. By proper care and forethought losses from this source can be reduced to a mere fraction of their present volume. This is not theory, but demonstrated fact. In certain rural communities of the

United States, where prevention measures have long been practiced, fire losses have been reduced to less than one-fourth of the average for the country as a whole.

The most common causes of farm fires are defective chimneys and fire apparatus, sparks on dilapidated and weather-beaten shingle roofs, careless use of matches, kerosene, and other inflammable oils, spontaneous combustion of hay in barns, and lack of proper lightning protection. No farmer should let Fire Prevention Week go by without examining his chimney, stoves, and stovepipes. Particular attention should be given to that part of the chimney just under the roof of the house, where defects most frequently are found. Broken or crumpled shingles should be replaced, or better still, the shingle roof should be replaced with one of non-combustible material. Matches should be kept in safe receptacles, well out of the reach of children. Kerosene lamps or oil stoves should be filled during hours of daylight and never after artificial light is necessary. Hay should be well cured before being stored in the barn, and if for any reason this can not be done salt should be freely sprinkled in the hay when being stored. The more important buildings should be carefully rodded against lightning in all localities where the lightning hazard is prominent.

Unfortunately, some of these precautions require expenditures which many farmers at present can ill afford. Most of these measures, however, require forethought and personal effort only. The same may be said of numerous other safety measures, such as care in the disposition of hot ashes and keeping the premises generally free from rubbish.

A proper attention to the work of Fire Prevention Week or the observance of the single Fire Prevention Day, October 9, in line with the recent proclamation of the President of the United States, would eliminate countless fire dangers, which if not removed, will take a toll of thousands of farm homes during the coming winter. The observance of this week or day should further tend permanently to remove some of our worst habits of carelessness.

LET'S PRACTICE FIRE PREVENTION EVERY DAY IN THE WEEK AND EVERY WEEK IN THE YEAR.

More cities and towns than ever before in the history of the country have passed ordinances forbidding or regulating the use of the wooden shingle as roofing or restricting its use to certain zones of the municipality. This will prove a long step in advance in Fire Prevention.

(Continued from page 1)

ing a fire.

At 4 p. m. the convention took a recess for the official photograph which appears with this article, taken by Deputy State Fire Marshal Jack Forster, of New Ulm. Mr. Forster also appeared before the convention, making a short talk on common fire hazards.

Relief Association matters were discussed at length and towns not so organized were urged to do so. County Seat towns were urged to take the initiative in this movement.

There were many invitations from different towns in the district bidding for the next meeting of the Association, which will be held in May, 1925. After a short session of the Executive Committee it was announced that Blue Earth would be host to the next convention, after which Chief Wilmert of Blue Earth thanked the Executive Committee for having selected his town and assured those present that Blue Earth would show the boys a good time next spring.

The meeting closed with a Round Table discussion, which was the most interesting part of the program as it afforded an opportunity for the presenting and answering of many questions of interest to fire departments.

The officers and Executive Committee were re-elected to serve until the next meeting of the Association. They are as follows:

S. A. Brown, President; L. L. Wilmert, Vice President; C. H. Hanson, Secretary-Treasurer. Executive Committee: J. W. Pierce, President; Carl Hager, Secretary; Wm. R. Mattison, A. N. Erickson, A. A. Peterson.

The meeting was well attended and the interest manifested more than justified the existence of the organization which has sure made a wonderful start.

The association plans to meet semi-annually, which is a splendid plan for through rubbing elbows and getting better acquainted with the other fellow and through the exchange of ideas and the discussion of topics at these meetings the efficiency of the fire departments will be increased.

A DEFECTIVE CHIMNEY IS ONE OF THE MOST PROLIFIC CAUSES OF FIRE IN THE HOME. KEEPING IT CLEAN IS ONE OF THE FIRST STEPS TOWARD SAFETY.

DO NOT USE WATER UPON A GASOLINE OR KEROSENE FIRE. USE A CHEMICAL EXTINGUISHER OR ELSE THROW EARTH OR SAND UPON IT. TRY TO SMOOTHER IT.

# FIRE MARSHAL BULLETIN

## HOW TO REMOVE SOOT

Large numbers of shingle roof and defective flue fires are being reported, due to the increasing use of soft coal. The accumulations of soot on heating surfaces reduce the value of the fuel, and frequently clog the flues and start fires. The Federal Fuel Administration Board suggests the following plan for removal of soot:

The fire is put into good condition with a substantial body of hot fuel. Common salt, thoroughly dried, is then thrown or sprinkled onto the incandescent fuel bed in a quantity, depending entirely on the size of the furnace. In the case of a house heating furnace, one pound at a time is ample. In the case of a large power plant boiler, four or five scoops full may be required. The dampers are kept open so as to maintain the furnace temperature and the salt is allowed to remain until the fumes have entirely disappeared.

Immediately upon charging the salt, the furnace becomes filled with dense white fumes which may require as much as half an hour to entirely disappear. If results are not secured on the first application, it should be repeated as many times as necessary.

Once the heating surface is thoroughly cleaned, a small application every few days is usually sufficient to keep it so.

Everyone using soft coal is urged by the administration to use this remarkably simple and cheap process of getting rid of the soot, cleaning and heating surfaces of boilers, thus saving large amounts of coal, preventing fires from chimneys and generally conserving all along the line of heating and the production of power.

## FIRE PROTECTION

"A LITTLE FIRE IS QUICKLY TRODDEN OUT, WHICH BEING SUFFERED RIVERS CANNOT QUENCH."—SHAKESPEARE.

THE FIRST FEW MINUTES AT A FIRE ARE WORTH MORE THAN THE NEXT FIVE HOURS. MANY A HOME AND PLACE OF BUSINESS OR AUTOMOBILE HAS BEEN DESTROYED BECAUSE THERE IS NOTHING AT HAND. NO MEANS OF FIRST AID FIRE PROTECTION. A HAND EXTINGUISHER WOULD HAVE PUT OUT THE FIRE IN A MOMENT.

EVERY HOME OR AUTOMOBILE SHOULD BE EQUIPPED WITH AT LEAST ONE HAND EXTINGUISHER.

IN CASE OF FIRE KEEP COOL AND ACT QUICKLY.

DO NOT FORGET YOUR FIRE EXTINGUISHER, AND IN USING IT DON'T AIM AT THE FLAMES, BUT AT THE BASE OF THE FIRE.

## THE ELECTRIC SAFETY VALVE

Do not overload your electric circuits. The fuse performs the same function on an electric system as a safety valve on a steam engine. Do not destroy this safety device by bridging or overloading your fuses.

The fuse is made of a soft metal which is intended to melt or blow out when the amount of current being used exceeds the capacity of fuse. Without this fuse we would have no way of regulating the flow of current with the result that motors and other electrical appliances would be burned out and the wires carrying the load would become red hot, setting fire to the building, and the dangerous thing about it is that most wiring is in concealed places.

## BUILDINGS CONDEMNED DURING THE MONTHS OF OCTOBER AND NOVEMBER, 1922

Owner	Location	Kind of Building
James Kelly and H. A. Fleming,	Lot 7, Block 264, Orig. Plat,	Barn
A. B. Amundson,	Lots 1 and 2, Block 4, 1st Add., Duluth	Barn
A. C. Weiss,	The N. 70 feet of Lots 46 and 48, Duluth Proper, 1st Div. (228-30-32 W. Second St.)	Frame Store
Erick Olson,	Lake Park	Hotel and Barn
Iron State Realty Company,	Lot 5, Block 10, Orig. Plat,	
Eugene G. McKeown,	Minneapolis	
Sim Simmenson,	Lot 9, Auditor's Sub-division No. 1 (1025 Sixth Ave. S.)	Barn
Wm. Whipple,	Pipestone	
H. W. Wilson,	S. 50 feet of Lots 10, 11 and 12, Block 22, Original Plat, NE 25 feet of Lot 6, Park Add., Lot 7, Park Addition, Red Wing	Frame Barn
Sam Sternberg,	Part of Lots 1 and 2, Blk 27 (327 Bush St.)	Vacant Building
John Salaski,	Rochester	Blacksmith Shop
Erick G. Anderson,	Lot 2, Block 51, Original Plat (205 North Broadway)	Barn
Barrett & Zimmerman,	St. Cloud	
Gust A. Kelm and Martha K. Kelm,	Lot 10, Block 25, Edelbrock's Add. (406 16th Ave. N.)	Vacant Building
	St. Paul	
	Lot 24, Block 2, Edmund Rice's Addition (671 Jessie St.)	Shed
	E. 275 feet of N. 182 feet of SE $\frac{1}{4}$ of Section 33, Town 29, Range 23, except part taken for Snelling & University Aves., Stillwater	
	E. 24 feet of S. 103 feet (except W. 4 feet of S. 55 feet, S. part E. of Main) of Lot 8, Block 18, Orig. Plat,	Vacant Building
		Feed Mill

## A GOOD USE FOR MOONSHINE

There have been recorded many and various ways of conserving water, but it remained for a South Carolina town to adopt the most novel method. On account of a long drouth, street sprinkling was abandoned, but in order to reduce the dust, moonshine whisky, thousands of gallons of which the officers of the law had been compelled to destroy after confiscation, was used in place of the water. Contemporary history does not relate how many of the citizens were found on their knees in the streets during this period.

JAN 15 1923

# STATE OF MINNESOTA FIRE MARSHAL BULLETIN

GEORGE H. NETTLETON, Fire Marshal

Room 330, State Capitol

No. 45

Saint Paul

Dec. 15, 1922

## THE DELUSION OF FIRE ESCAPES

In writing up fire after fire, newspapers usually fail to mention the fire-escapes if they get blocked by flames and smoke. The fire prevention experts know that the majority of all outside iron fire-escapes are useless during fires. They know that the average fire "escape" can not save life except by mere "good fortune."

Experts say in no uncertain terms that it is criminal folly to put faith in protective measures that, at best, only work under the most favorable conditions.

The following facts give a slight idea of the serious menace that these so-called "escapes" are to the lives of school children, hospital patients and inmates of asylums and Homes for the Aged.

The fatuous faith of the majority of authorities and laymen in the life-saving power of outside fire-escapes is a constant source of wonder and pain to the student of fire protection for institutional buildings.

Some escapes are wide and properly railed; the stairs have an easy pitch, access to them is direct; they lead to the ground; they are located opposite blank walls or pass windows protected with metal frames and wired glass; they are a valuable means of egress, if used.

The majority of fire-escapes, however, are a delusion; they may prove death-traps. Narrow, steep, reached by climbing over window sills, terminating many feet from the ground, passing windows out of which flames are likely to pour, never used at times of drill, they are a monument of the ignorance of the authorities and the selling ability of the manufacturers.

An outside fire-escape on an institutional building is generally an admission of the inadequacy of its normal exit facilities.

The delusion that ordinary outside fire-escapes give protection is a serious menace to the safety of school children and occupants of institution-

al buildings.

In dozens of tragic fires people have roasted to death on fire-escapes in buildings that had no other and better safeguards.

This is because there is hardly a state which has sufficient fire laws, and this includes Minnesota. Even fire prevention officials themselves, sometimes have been fooled about the safety of buildings that "comply with the law."

Buildings having the common type of fire-escapes should never be considered safe unless sufficient protection is on the inside, such as fire-walls, extinguishers, sprinklers, protection of stairs, etc.

The Rialto Theatre fire last November, 1921, in New Haven, Conn., caused the death of seven and the injury of many more of the audience.

The account which appeared in the National Fire Protection Association's "Quarterly" magazine, said:

"Panic and a jam at the exits ensued. There were exits on three sides of the building. Everyone, however, rushed to the rear. One of the balcony fire-escapes passed a window on the first floor, and when the flames broke out of this window no one could pass down. Two people were found dead on the fire-escapes and two more died before they reached the hospital. Three died later from burns and injuries inflicted by the mob. Hundreds of others received burns and bruises."

In the Lyons school fire, which happened just before Christmas, 1920, lack of knowledge and carelessness caused the death of two 12 and 13-year-old girls. Like hundreds of other tragedies, this should never have occurred. It is an unthinkable loss! Yet it can occur again tomorrow in the schools of your city, no matter where "you" are!

The Lynn Home for Aged Women

was an old, old building which should never have been used. When it burned in February, 1920, four feeble old women roasted to death because no one cared!

We think we are humane and just! But are we? Do you know any institutional buildings that are old and without modern means of protection? If the answer is "yes" do your share now to improve them!

The following is quoted from a letter written by Mr. Mallalieu, general manager of the National Board of Fire Underwriters, on April 11, 1922:

"I fully realize the unreliability of ordinary fire ladders or stair and balcony type of fire-escapes. On existing buildings conditions may sometimes force their acceptance, but they seldom, if ever, furnish a satisfactory solution of the problem and may easily create a false sense of security. Enclosed interior stairways or smoke-proof towers, either exterior or interior, are much better, and the additional cost should not be considered where human life is concerned. In some buildings the horizontal exit through a division wall would prove the simplest and most efficient method of safe egress."

"It is important that all rooms in such buildings where fires are liable to start should be protected by sprinklers, and that hand extinguishers or fire pails be available at various points."

A report covering several thousand schools in large and small cities throughout the country was made last year by the National Committee for Chamber of Commerce co-operation with the public schools and the American City Bureau.

The report shows with startling proof that over "Thirty-seven per

(Continued on Page 2)

# FIRE MARSHAL BULLETIN

## State of Minnesota FIRE MARSHAL BULLETIN

**George H. Nettleton, Fire Marshal**  
Office 330, State Capitol  
Saint Paul, Minn.

Published monthly in the interest of Fire Prevention and Fire Protection

SAINT PAUL, DEC. 15, 1922

The Bulletin will be mailed to any address regularly upon request

### THE CHRISTMAS SEASON

The approach of the Christmas season is ever one fraught with anxiety and toil for the fire fighters, and the coming holidays are no exception to the rule. While last Christmas saw only two fires in Minnesota traceable to the Christmas tree, the possibility of a holocaust due to carelessness is always present and the fears of those concerned will not be allayed until the Yule-tide period is over.

The principal Christmas hazard and the one responsible for many frightful deaths and much property loss in the past has been the Christmas tree. Next in line is that of flimsy decorations and the use of the open flame for lighting purposes. The two have always been a combination for everything that is bad and though numerous "Don'ts" have featured the educational work used in their elimination the two still continue to an extent. There is absolutely no excuse for such.

While there is no legal ban on the use of candles for Christmas tree lighting there is a parental obligation involved, and it attaches to every father and mother to the extent of seeing that nothing is permitted that will in any way endanger the lives of the kiddies. This means the substitution of electricity if possible for tree lighting purposes, and if not procurable either the elimination of all tree

decorations so that fire is practically impossible. Danger can be avoided without detracting in the least from the beauty of the display or the pleasure afforded the children from it.

When the tree has been secured one of the first things to do is to see that it is firmly planted so that children or others in their enthusiasm can not tip it over. Then in the work of decoration only those of a metallic or fireproof character should be used, such precaution even extending to decorations of cotton batting and tissue paper which should never be used for decorating, as both are highly inflammable. As stated, electric lights are preferable for decorative lighting effects, but when not procurable the precautions cited should be taken. The effect regarded by many as indispensable in connection with a Christmas tree can be better

secured by the use of mineral wool. It is also possible to fireproof other inflammable material used, such as bunting and flags at a small cost.

Thorough safety to life and property, however, does not lay entirely in the Christmas tree precautions outlined. Having planted and decorated the tree the next and one important thing is to watch it. A lighted tree with children present and no one in authority close by is a temptation and it should not be left unguarded for a moment. Watch the household match supply on all occasions.

### WOODEN SHINGLE ROOFS

For over a year, the city of Indianapolis has been carrying on a constructive campaign of fire prevention, under the auspices of the Chamber of Commerce and the local Fire Prevention Bureau, and is achieving concrete results. According to a recent report, for example, 3,200 houses have now been re-roofed with non-inflammable shingles, and it is expected that there will be 800 additional contracts completed by the end of the year. It is predicted, also, that another 4,000 buildings will have incombustible roofs by the end of 1923, and that in five years every wooden shingle roof in Indianapolis will have been eliminated.

### HOME FIRE A CALAMITY

A home fire is a calamity. It means personal danger and the loss of priceless articles while in progress and homelessness afterwards. Fourteen per cent of dwelling fires are from defective or unclean flues. Rubber or flexible metallic tubing as gas connections is hazardous. Repeated warnings have been given against the use of gasoline in the home. All cleaning with gasoline should be done by establishments in business for that purpose. Electric irons cause many electrical fires; 15 per cent of electrical fires are caused by flexible cords used as extensions; unauthorized changes of wiring by amateurs and the bridging of fuses are prolific causes of fires.

### DISCOURAGING

The National Board of Fire Underwriters in its annual report brought out the fact that more than \$16,000,000 of property was destroyed by "matches, smoking, etc.,," representing a daily loss of nearly \$45,000 from this one preventable cause. Eliminating eight hours from each day when the tobacco user is presumably asleep, the inference was obvious that during the sixteen wakeful hours of the nation, tobacco smokers and careless users of matches were responsible for a loss of nearly \$3,000 an hour, or \$50 a minute!

Don't leave meat boiling on a gas stove or other cooking device, or even one "cook may spoil the broth." We would tell you why, but there are rolling pin factories in Minnesota without "cease operation permits."

(Continued from page 1)

cent of school buildings are fire-traps." Discussing Fire Protection features, they say:

"Though a building is not fire-proof it can be provided with various equipment and construction devices which will afford partial protection against fire. In the buildings of slow burning construction and those actually fire-traps, in which there are always fire hazards, the figures show that only 18% of them have fire-proof basement ceilings and only 24%, one in four, have their heating apparatus in a fire-proof enclosure with fire doors. Of all these buildings, only 5% have the smoke-proof tower exits.

"Automatic Sprinkler equipment throughout the entire building is provided in only 99 buildings, less than 1½%; 326, or less than 5% of the total, have sprinklers in the basement; 112 buildings, or less than 2%, have sprinklers in attics, and 62, less than 1%, in storerooms.

"Thirty-six per cent of school buildings have no fire extinguishers."

Yet many school boards continue to waste their scanty funds upon flimsy fire-escapes.

Do not pin all your faith to fire-escapes. Many men who know say that fire-escapes on institutional buildings almost invariably mean that the buildings were not properly constructed in the first place. No building is made completely safe, even though it has fire-escapes, unless there is full inside protection as well.

Inside protection means some or all of these things: Fire-walls, protection of stairs, hand extinguishers, automatic sprinklers, fire-proofing basements around heating plants, etc. Generally, when the proper protection is provided inside the building, fire-escapes are not needed.

Won't you use your influence to help make our institutional buildings really safe?

Whatever is needed, have it done. Go to fire prevention experts in your own city and urge School Boards, hospital authorities and others to comply with whatever they will advise.

### OWATONNA ON THE JOB

The local Fire Prevention Committee at Owatonna was reorganized recently under the chairmanship of Karl P. Theimer, with the following men as committeemen: Wm. H. Hart, W. B. Adsit, Louis Watowa, H. W. Stout, M. J. Parcher, Mark Alexander.

The committee is planning to carry on an active fire prevention program during the coming year.

What plans has your committee made for 1923?

## FIRE HYDRANTS FOR FIRE USE ONLY

The requirement of the fire hydrants of a city or town to be at all times in condition for immediate use by the fire department is so apparent a necessity that it would seem at first thought almost a waste of space to refer to it. Yet, the fire hydrant is often the weakest link in the chain of the fire department's efficiency.

This result is from no lack of serviceability on the part of the hydrants themselves. It arises from the careless use of them by others outside of the fire department. There is no doubt that the ideal arrangement is for the fire department to have exclusive use of the hydrants and whenever possible, this should be the rule. But unfortunately, especially in the small cities, this arrangement is not practicable, and the street cleaning, street and sewer department employees often are allowed access to the hydrants for sprinkling, flushing and other purposes. Private contractors sometimes are also allowed to connect with the city hydrants for building and other operations.

In most cases of the kind, the type of men who handle the hydrants are not of the variety who would be apt to exercise care of judgment or who understand the proper use of the hydrant. The consequence is that through the carelessness or ignorance of these men, the fire hydrant may be put out of commission just at the crucial time when it is most needed by the fire department, which may result in delay causing a loss of many thousands of dollars by fire.

This matter is one which forms one of the serious problems that the fire chief has to face and overcome as best he may. As a rule, the hydrants are under the jurisdiction of the water department and only by co-operation between the superintendent and the chief and by frequent and rigid inspection of the hydrants can they be kept in condition that will allow of their readiness for instant use by the fire department in case of need.—Fire and Water Engineering.

## INDIVIDUAL LIABILITY

Measures are before several State Legislatures, as well as city councils in various parts designed to fix the cost of extinguishing fires upon the premises of persons who disregard fire prevention and clean-up orders given by proper constituted authorities.

There is no good reason to advance why all the people should be taxed for costs to extinguish a fire on the premises of any persons who disregard such safety orders, and thereby causes a fire on his premises. He alone should shoulder this cost and expense.

Wax candles on Christmas trees have destroyed many homes.

Paper, pyralin and celluloid ornaments invite disaster.

Christmas trees soon become kiln dried and highly inflammable in the house. They should be removed soon after Christmas.

Candles in the windows are pretty but extremely dangerous.

Toys requiring the use of alcohol, kerosene or gasoline have cost the life of many a child.

Toy motion picture machines may bring joy to your child but sorrow to your door.

Prompt disposal of your Christmas package packing may keep the fire department away from your home.

Exercising caution in these things will help make your Christmas a merry one.

## BOY SCOUTS IN CONTROL

The Boy Scouts of Minneapolis recently took over the administration of the city's affairs when each day some member of the Boy Scouts for one-half hour was in full control of one of the city's departments.

The following letter written by R. W. McKnight, who occupied the position as Chief Engineer of the Minneapolis Fire Department on Dec. 6, illustrates the sense of duty and responsibility which these young Americans felt while on the job:

### "MINNEAPOLIS FIRE DEPARTMENT"

#### General Order No. 1.

Dec. 6, 1922.

To the Force,  
Gentlemen:

I have just taken over control of the force from Chief Ringer, and I trust that you will keep your discipline and efficiency as you did when Chief Ringer was in office, and that no man in the force will stain the reputation of the Fire Department by relaxing in his duty.

It has been well said, and may always be said, that the Minneapolis Fire Department is one of the best in the great northwest. You can help your station to be the best by always being ready for service.

Yours for service.

Signed. R. W. MCKNIGHT,  
RWM-RDW      Chief Engineer."

Chief McKnight was given all the thrills of a real chief and soon after taking over the reins of the department he was called upon to respond to an alarm and turned in a 3-11.

This is a good way to find out what kind of stuff boys are made of, and it prompts them to take a keener interest in civic affairs.

## FIRE BARRELS AND COLD WEATHER

Calcium chloride is far superior to common salt for use in fire barrels. It is difficult at points below zero to prevent salt water from freezing; furthermore, salt has a tendency to creep and crystallize over the barrel.

The following table gives the quantity of salt and calcium chloride required for given temperatures:

Lbs. per gal.	Salt	C. C.
½	24 above	29 above
1	18 above	27 above
1½	12 above	23 above
2	6 above	18 above
2½	1 above	4 above
3	3 below	4 below
3½	8 below	11 below
4		19 below
4½		29 below
5		41 below
5½		50 below

## SOME HOLIDAY SUGGESTIONS.

Do not take foolish risks.

Try to have a good time, but do not endanger life and property in doing so.

Remember safety first.

Do not use lighted candles on Christmas trees; get the electric kind, carefully wired.

If candles are used, permit elders only to light them and see that they are not in close proximity to anything inflammable.

Keep all matches away from the children.

Fire proof all flimsy decorations if possible and do not use cotton batting for snow effects or tissue paper for decorative purposes under any conditions.

For snow effects use mineral wool.

If there are any open gas jets see that they are protected and that there are no drafts while the tree is lighted.

Have a fire extinguisher of some sort handy.

Remove all Christmas trees within two or three days. Some persons allow them to remain until New Years. This is wrong. There is nothing more inflammable than dry Christmas greens.

Fire once started in a room decorated for Christmas is likely to spread with terrible swiftness.

Every year the papers tell of many homes destroyed and many people burned to death as the result of Christmas fires.

Make this a safety first Christmas.

My Bonnie bent ove the gas tank,  
The height of the contents to see.  
He lighted a match to assist him,  
Oh! bring back my Bonnie to me.

## NEED OF BETTER PROTECTION FROM FIRES ON THE FARM.

By Secretary of Agriculture Wallace. Prepared for and circulated during Fire Prevention Week, but the advice should be followed the year around.

The farmer should be particularly interested in Fire Prevention Week. While the prevention of fires is everywhere more effective and less costly than reliance on means of control and extinction; this is doubly true in the case of the farmer. The urban dweller has his fire department and his city water system on which a measure of reliance can be placed. The farmer, as a rule, is sadly lacking in effective means of checking a fire once it has gained headway. A far large percentage of farm fires, for this reason, represent total losses than is the case with city fires.

The needless destruction of property is always a calamity. Even if the owner should be fully protected by insurance, which the farmer seldom is, the loss burden is merely shifted to others and the country is poorer by the amount of the loss. The total annual fire loss of farm property alone exceeds \$50,000,000. No complete figures are available.

The commercial fire insurance companies, together with some of the larger mutuals which report to the Actuarial Bureau of the National Board of Fire Underwriters, show annual losses paid on farm property for recent years of about \$20,000,000, while the two thousand local farmers' mutual insurance companies, few if any of which report to the Bureau, show similar losses of about \$12,000,000. When it is further taken into consideration that the insurance covers as a rule only from two-thirds to three-fourths of the value of the property, and in addition, that a very large percentage of farm property subject to fire is as yet uninsured; it will readily be seen that the estimate

of \$50,000,000 is not an exaggeration. In addition to the property loss, thousands of lives are sacrificed every year in accidental fires. Even where no loss of life occurs, suffering and privation are common results of fire disasters.

Farm fires, as well as those occurring in cities, are to a very large extent preventable. By proper care and forethought losses from this source can be reduced to a mere fraction of their present volume. This is not theory, but demonstrated fact. In certain rural communities of the United States where prevention measures have long been practiced, fire losses have been reduced to less than one-fourth of the average for the country as a whole.

The most common causes of farm fires are defective chimneys and fire apparatus, sparks on dilapidated and weather beaten shingle roofs, care-

less use of matches, kerosene, and other inflammable oils, spontaneous combustion of hay in barns, and lack of proper lightning protection. No farmer should let Fire Prevention Week go by without examining his chimney, stoves, and stovepipes. Particular attention should be given to that part of the chimney just under the roof of the house, where defects most frequently are found. Broken or crumpled shingles should be replaced, or better still, the shingle roof should be replaced with one of non-combustible material. Matches should be kept in safe receptacles, well out of the reach of children. Kerosene lamps or oil stoves should be filled during hours of daylight and never after artificial light is necessary. Hay should be well cured before being stored in the barn, and if for any reason this cannot be done salt should be freely sprinkled in the hay when being stored. The more important buildings should be carefully rodded against lightning in all localities where the lightning hazard is prominent.

Unfortunately, some of these precautions require expenditures which many farmers at present can ill afford. Most of these measures, however, require forethought and personal effort only. The same may be said of numerous other safety measures, such as care in the disposition of hot ashes and keeping the premises generally free from rubbish.

### NERO STILL FIDDLING

Fiddling while Rome burned is a charge laid to Nero long ago and still holds. In Minnesota we have many who are occupying the Nero role; that is, they are "fiddling with weak water pressure, poor fire protection and some none at all, while property values burn. Lay the fiddle down awhile and get real fire protection. No city or town so small, but some class of effective fire protection can be had that would stop a blaze if brought into action the proper time--when the blaze is small. It may be anywhere from a barrel of salt water handy, a chemical fire extinguisher or anything up to the latest piece of modern protection or device for fire killing. Whatever it may be that you are able to do, do it now! Don't wait until half the town is destroyed. Modern fire protection means lower insurance rates and fewer serious fires.

### CLAIM IS TOO SWEEPING

In a recent bulletin issued by the Portland Cement Association appears the following sentence, "The surest safeguard against loss by fire is a building so constructed it cannot burn."

This is the kind of statement which has done much to dull a right sense of responsibility for fire losses on the part of the owners and managers of buildings of fire resistive construction.

It has been demonstrated time and again that building of fire resistive materials is only the beginning of wisdom for prevention of fire loss. It would be entirely possible to put up a building of mill construction in such a way that it would be a greater safeguard against loss by fire than a building which might be entirely constructed of concrete.

We do not believe there is any building construction material which may be called "surest safeguard against loss by fire." For all fires of interior origin, the nature of the building contents and the method of the building construction usually have far more effect upon the loss than the kind of material out of which the building is constructed.

Every one interested in fire prevention welcomes the reinforced concrete building as an aid in cutting down the American fire loss; but the cement industry does an injury to itself and to the cause of fire prevention when making such an inaccurate statement as the one in its recent bulletin—Fire Protection.

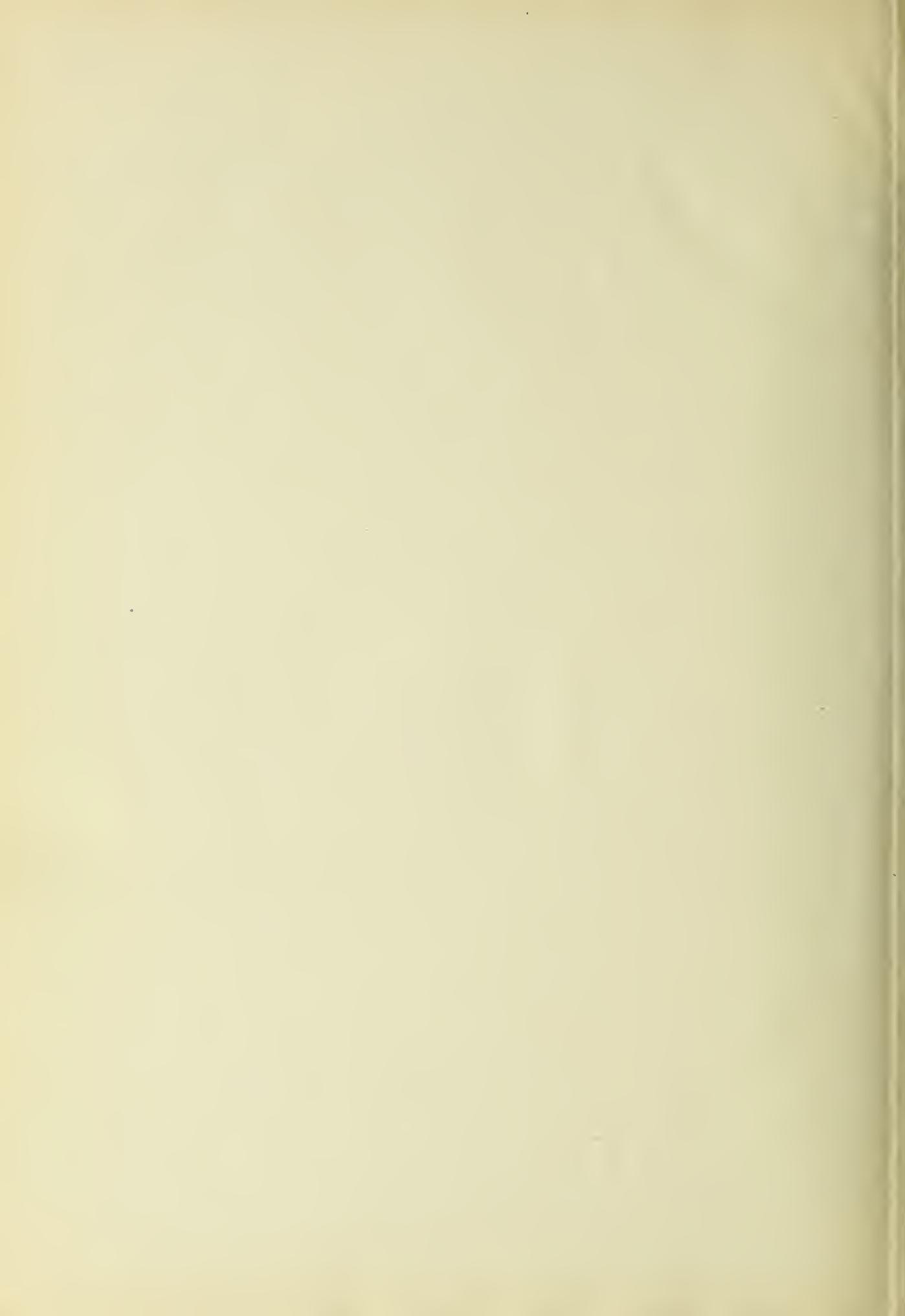
### STORAGE OF SOFT COAL.

Large quantities of soft coal are being stored by mercantile establish-fear of a fuel shortage during the winter. The danger of spontaneous combustion in this causes a serious fire hazard, and unusual care should be exercised by the owners of such properties. The hazard can be reduced by proper selection of the grades and sizes of soft coal, and the exercise of proper precautions in its handling and storage.

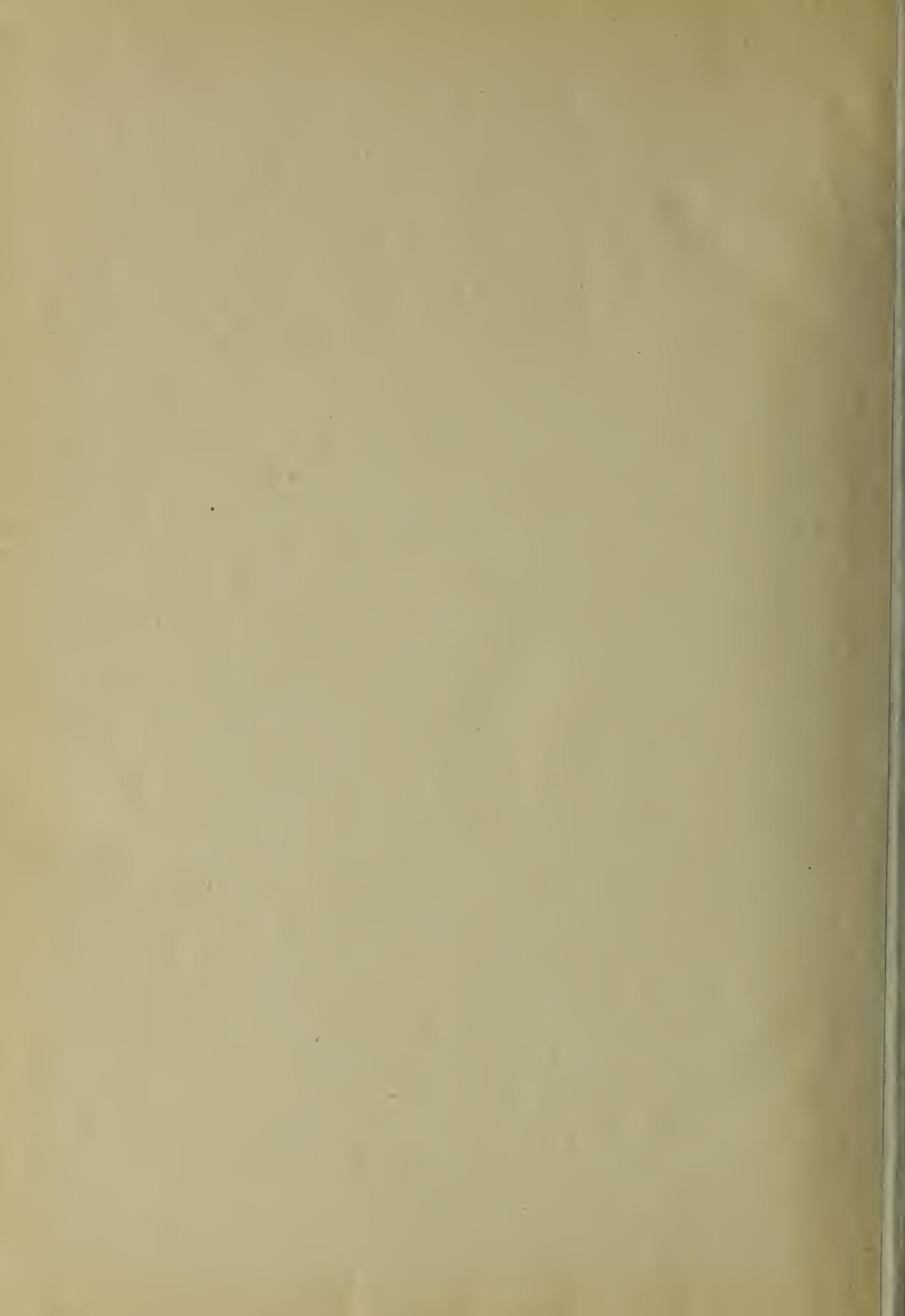
Where large quantities of soft coal are stored in the open it should be in separate piles, so that a fire starting will not spread through the entire supply, and the affected pile can be extinguished or moved. Where the coal supply is stored in basements the Fuel Administration suggests the following precautions:

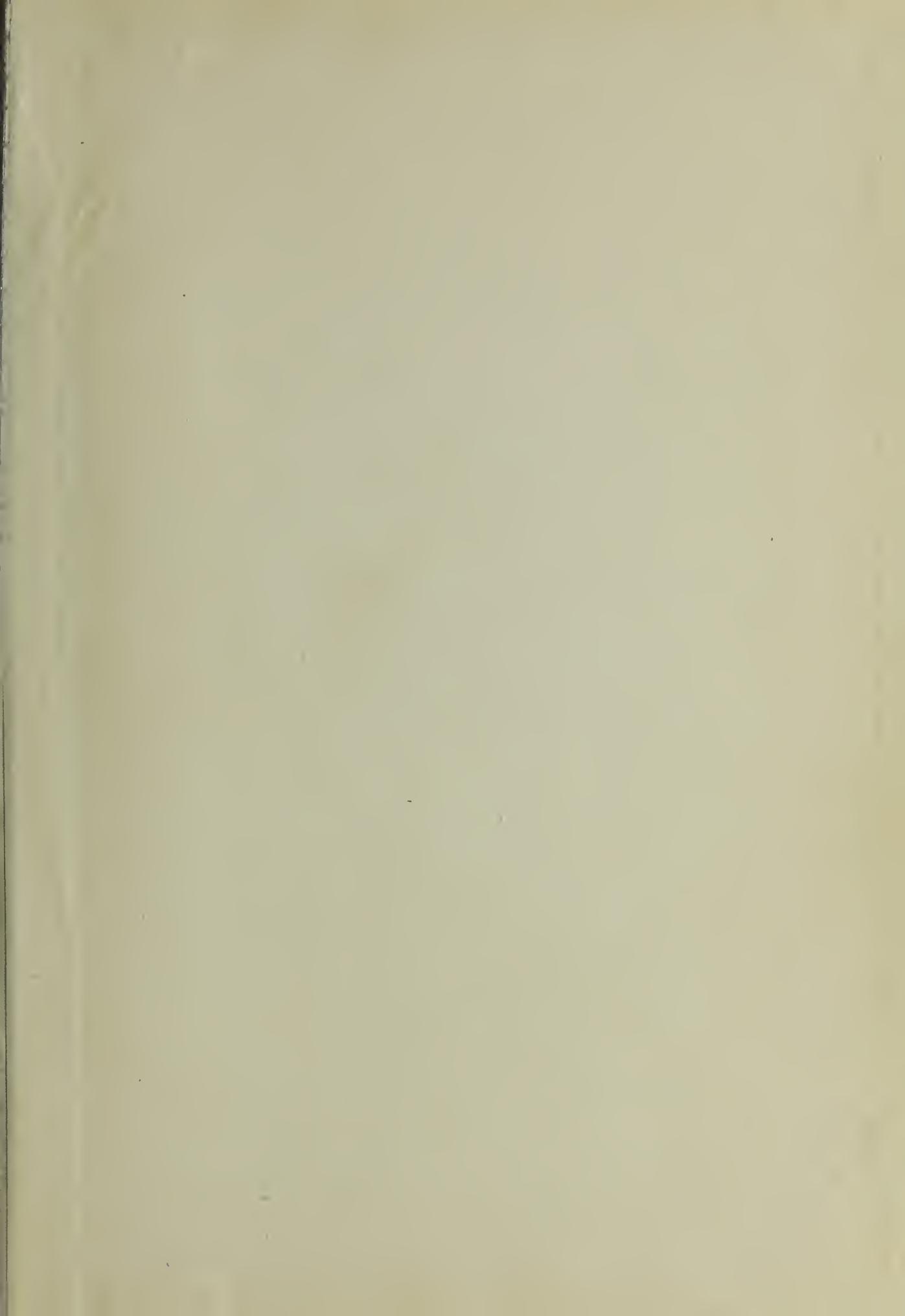
1. Coal the size of a walnut or larger is well adapted for storing. Mine run, slack or screenings, on account of fine coal and dust, are not suited for storage in a basement.
2. Never place coal near a hot pipe, against a hot furnace or any other hot surface.
3. Do not mix ashes with the coal, as there may be live coals in the ashes.
4. If coal must be wet down, wet only the portion that is to be used immediately.
5. It is very important that pieces of waste, oily rags, sticks, paper and other rubbish should not be mixed, or allowed to come in contact with the coal.
6. Special attention should be paid to the proper cleaning of flues and chimneys regularly.











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